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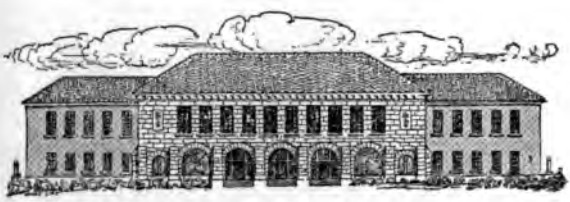
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A BRIEF COURSE IN THE HISTORY OF EDUCATION

Brief Course Series in Education

EDITED BY

PAUL MONROE, PH.D., LL.D.

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A BRIEF COURSE

IN THE

HISTORY OF EDUCATION

BY

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OF "THOMAS PLATTER AND THE EDUCATIONAL RENAISSANCE OF THE SIXTEENTH CENTURY," ETC.

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PREFACE

THIS condensation of *A Text-Book in the History of Education*, issued in 1905, has been prepared to meet the demands of Normal and Training schools and of those colleges that have not sufficient time at their disposal for this subject to master the contents of a larger text. The great need in the study of the history of education has been the incorporation of enough historical material to give body to the subject, and to indicate the relationship between history or social life and education. This *Brief Course* aims to avoid the tendency towards too great generalization characteristic of most texts on the subject, and to preserve much of the concreteness of the larger text by omitting many topics, especially those that demand a philosophical treatment such as most non-collegiate students are unprepared to give. Even in the abbreviated form, the volume contains more material than other texts on the subject; but it is hoped that the use of this or any briefer text is but preliminary to the use of some larger one commensurate with the importance of the subject.

So far as compatible with this condensation, the text aims to retain the merits sought for in the larger one, namely: to suggest, chiefly by classification of this material, interpretations such as will not consist merely in unsupported generalizations; to give, to some degree, a flavor of the original sources of information; to make evident the relation between educational development and other aspects of the history of education; to deal with educational tendencies rather than with men; to show the connection between educational theory and actual school work in its historical development; to suggest relations with present educational work.

The methods of presentation of the subject are the same as in the larger work. Marginal notes and chapter summaries have been added for the convenience of the student. All bibliographical material, together with suggestions concerning topics for further study, have been omitted, as they are accessible in the larger text. Should further material or further references be desired, recourse can be had to the *Text-Book* or to the Syllabus prepared to accompany the text.

P. M.

NEW YORK, May, 1907.

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A BRIEF COURSE IN THE HISTORY OF EDUCATION



BRIEF COURSE IN THE HISTORY OF EDUCATION

CHAPTER I

PRIMITIVE PEOPLES. EDUCATION IN ITS SIMPLEST FORM

Education its simplest form

SIGNIFICANCE OF PRIMITIVE EDUCATION. — Education in its simplest form is found among the primitive societies of savage and barbarian peoples. Here one finds no school, no method of education consciously recognized as such, and only the slightest differentiation of a teaching class. And yet there is evident the essential characteristic of the educational process — the fitting of the child to his physical and social environment through the appropriation of the experience of previous generations.

Characteristics of education readily see

In our own time society is so complex that one can with difficulty get a grasp of the true nature of the entire educational process and of its relation to social life as a whole. In the primitive stage, where society is so simple, the general nature, purpose, method, organization, and result of education are more readily discovered. By such a study one may arrive at a better comprehension of later more complex stages of educational activity.

PRACTICAL EDUCATION. — The training in the processes of obtaining food, clothing, and shelter — which are obligations possessing a very direct and insistent character for every individual in primitive society — constitutes their practical education. Yet there is seldom, if ever, a direct, conscious process of training on the part of society. The necessary knowledge

is obtained by the child through imitation. In the earlier years this imitation is unconscious. The child in savage and barbarous tribes plays with miniature imitations of the implements used by adults. His amusements and games are, similarly, but imitations of the activities of adult life. Indian children play with a log in the water and learn to balance and to paddle as the use of the canoe will later demand. The boys shoot at a mark with the bow and arrow; the girls make utensils of clay and play at the preparation of food. There are few games aside from such imitations. These few, such as a simple ball game, are merely imitations of the sports of adults.

Education of the primitive child through play

The second stage of this training through imitation is a conscious one. Then both boy and girl assist in the activities of the adults, and must learn by imitation because the work is demanded of them. This demand on the part of the adult, however, is not for the sake of training the child, but for the result of the work. In the art representations of their social activities left by primitive people, there are to be found no evidences of any conscious training of the young by the adult. And in the study of those forms of primitive life that have survived, few practical educational activities, save the two forms of imitation mentioned above, have been found by scientific observers.

His education through work

THEORETICAL EDUCATION. — Another phase of primitive life which occupies much of the time of the adults and possesses educational value for the young, is that connected with ceremonies, dances, and incantations. Such ceremonial performances constitute the religious worship of primitive peoples and are necessary before a hunt, a military expedition, a harvest, the planting of grain, the storing of food, and, in fact, before any important social activity. Inasmuch as they contain explanations of the myths, legends, religious dogmas, scientific or intellectual beliefs, or historical traditions of the respective tribes, all such ceremonials have an educational function. Thus the younger generations are being continually instructed in the lore

Education through religious and social ceremonies

of the past, — in that which constitutes the intellectual and spiritual life of these people.

Initiation Ceremonies possess special educational value. These are to be found with all primitive people. Usually there are initiation ceremonies for girls conducted by the women, as well as those for boys conducted by the men. The latter, however, are by far the more elaborate and more important. The greatest variation occurs. With some tribes such ceremonies are brief; with others they extend over a series of years. In all cases they are most characteristic at the beginning of the adolescent period of the novice and culminate in his admission into adult membership in the tribe.

Educational significance of the initiation ceremonies

Voluminous descriptions of such ceremonies in many tribes are now to be found. The outline of the initiation as practiced by the Central Australian tribes will suffice as an example. Here there are three distinct steps or periods in the initiation which extend through several years. At the age of ten or eleven the boy is seized by a number of adults who are marked out for this special work by the position which they hold in the genetic[1] or family organization of their tribe. He is painted with the totemic symbols, tossed up into the air, and severely beaten. A few years later he is again seized and subjected to mutilation. The form of mutilation varies: it may be a scarification of back or breast that will leave throughout life marks of identification; it may be a knocking out of front teeth, a piercing of nasal septum or of lips, or a loosening of the scalp by biting. The ceremony usually culminates in a smoking or burning over a fire. During the period of these ceremonies — lasting for some days — the youth is given little or nothing to eat. By hunting he must secure certain animals used in the ceremonies. Thus as an incidental part of the initiation he is trained to furnish food for the adults. The entire period is taken up with a variety of complex totemic dances and ceremonies. During the

Outline of the initiation ceremonies of the Central Australians

[1] Society organized on the basis of blood relationships instead of upon the territorial relationship of political societies.

ceremonies he has a guardian to direct him, but for the most part he must observe absolute silence. The illustration given shows the concluding ceremony by which the ban of silence is removed by the medicine men who have conducted the initiation. The third phase of the initiation follows this, after an interval of some months. It consists of elaborate dances and performances participated in by large numbers, often representing several tribes, and sometimes lasting for several months with ceremonies every day. After this the youth is admitted into full membership in the tribe and henceforth associates no longer with the women and children.

oral value this initiation

Educational Meaning of the Initiation. — These ceremonies possess first a moral value. Through the mutilations, the boy is taught to endure pain; through exposure and want, he is taught to endure hardship and hunger; through subservience to the performers, he is taught obedience and reverence for adults. He learns that he is expected to serve his elders and especially to supply the family, of which he becomes a member by marriage or adoption, with the necessities of life. In fact, to an observer these ceremonies seem to be largely for the purpose of continuing the dominance of the elders in the control of society. Thus they possess a social and political value.

litical d social lue

This second value is further revealed by the fact that the decorations painted on the performers are totemic symbols. The explanation of these reveals the history and traditions of the tribe. Thus, also, are explained the complex relationships of genetic society, which constitute their politics, social order, science and religion, all in one. The dances and ceremonial performances have a similar purpose and are connected with their religious beliefs as well. In this they resemble in a crude way the early drama of the Greeks, the miracle and moral plays of the Middle Ages, and even the initiation ceremonies of modern secret societies.

Their religious value is evidenced in the fact that the totem is the center of worship and that the characters in these ceremonies



THE INITIATION OF THE YOUTH BY THE SHAMANS OF A CENTRAL AUSTRALIAN TRIBE



AMENOPHIS III AND HIS DOUBLE

From an Egyptian tomb. The double is the second figure, and appears even for the tablet which is supposed to contain the soul of the dead



represent totemic animals. Around such totems center their religious myths. In the explanation of these is found a fifth educational function; for such myths contain whatever of intellectual and scientific explanation the savage or barbarian has been able to give of the operation of the forces of nature.

Religious value

Intellectual value

A final value is to be found in the practical bearings of many activities connected with these ceremonies. Under the direction of the designated guardian the youths to be initiated learn the methods of capturing certain animals, the arts of making fire, preparing food, and similar processes of practical value. To primitive peoples, however, the significant feature of these activities is not the practical, but the religious; all such practical activity must be performed in a definite, stipulated way. Such distinctive methods of action constitute their religion. Religion, then, does not relate to isolated phases of life, but to the most commonplace. The learning of these ways constitutes their education. But to understand fully the educational significance of such ceremonies, one must consider further,

Practical value

THE FUNDAMENTAL CHARACTERISTIC OF PRIMITIVE LIFE — ANIMISM. — However diverse they may be in many respects, primitive peoples possess one fundamental bond of similarity. It is that interpretation of their environment which we call *animism*. To the savage and the barbarian, every stone, tree, canoe, dog, in fact, every form of material existence, whether animate or inanimate, possesses a soul similar to his own, — the so-called *double*. This belief is not the result of reflection, but is due to the fact that he does not differentiate clearly between his own existence and the existence of all other things, animate or inanimate.

Nature of animism

In his dreams he experiences with all the vividness of his waking hours the excitement of the chase, of the military expedition, and of other activities. This indicates to him that his spirit, or double, has been in other places, though his comrades convince him that his body has not moved. The trance, swoon, or other forms of insensibility. to which his life of force renders him espe-

How animistic belief develop

cially liable, together with somnambulism, demonstrate further that the double may leave the body to return at will. Death merely indicates that the double is unwilling to return or has lost its way, and hence has taken up its abode in some other body or object. Rare cases of insanity, idiocy, or epilepsy furnish still further evidence that the body and the double are separable entities, since in these cases a foreign or hostile spirit has taken possession of a body not its own. To his dog, his horse, his canoe, his weapons of warfare and chase, he attributes a similar double. For does he not use them in his dreams? Do they not cast a shadow as he himself does? And do they not at times seemingly thwart his will as if possessed of a hostile spirit? Therefore at death his horse and dog are killed; perhaps his canoe, even his wife, is burned, or his weapons and household utensils are buried with the body in order that their doubles may serve his double as of yore. To his spirit, offerings of food and other necessities of this life are made until the time when the remembrance of him is lost in the worship of the multitude of ancestral spirits that throng the air or inhabit the sensible objects that form the universe of the family or clan.

Animistic beliefs explain all natural phenomena and all personal experiences

Thus the primitive man explains the processes of the world around him; each material object, whether sensible or insensible from our point of view, is by him in his unreflective way endowed with consciousness. Through its double each feels and thinks and has the power of volition, as he himself has. The world of doubles is an immaterial counterpart of the world of material objects. Thus do ordinary processes of life and nature find their explanation; extraordinary happenings, in a similar way, merely indicate the intervention of such spirits, friendly if the occurrences are fraught with good results, hostile if accompanied by evil consequences.

Animistic beliefs control daily life

NATURE OF EDUCATION OF PRIMITIVE MAN DETERMINED BY THIS DOMINANT SOCIAL CHARACTERISTIC. — The life of the primitive man is largely occupied in obtaining the necessities of food, clothing, and shelter. But these must be

obtained in such a manner as not to offend the spirit, or double, that dwells in every object he needs for fuel or for building, in every utensil he uses in the preparation of food, in every weapon, and in every animal. Thus every desired end must be secured by activities following certain formal and established methods that are the outgrowth of the experience of past generations. The learning of these formal methods that will placate the spirit world back of the material world constitutes the most important part of his education. Because it consists in becoming familiar with the results of the experience of the past, this part of his education is here termed the theoretical education, as opposed to the immediate practical adjustment to the needs of his environment which grows directly out of the individual's own experience.

Such beliefs constitute the content of intellectual and spiritual education

This belief in controlling spirits, or doubles, and in ways of acting so as to obtain desired ends without offending them has counterparts in higher stages of social life. The early Greek explained the action of physical forces by the dominance of a multitude of special deities and sought to control the flight of an arrow or the course of a ship, to obtain the mastery of horse and chariot, through appeasing and thus controlling the deities back of them. To the Hebrew this direct control of the details of life, of the harvest, of the plague, of the battle, of sickness, of the objects to be used, and of the processes of nature was in the hands of a supreme deity and was to be obtained by man through ceremonial worship and prayer. To the modern man the mastery of a weapon is to be obtained by a knowledge of the laws of physics; the preparation of articles of food so as to avoid noxious elements contained in the materials, by knowledge of certain laws of chemistry; the control of a disease, by knowledge of certain biological laws; the control of the harvest, by knowledge of certain laws of nature drawn from a variety of the sciences. The chief point to be noted is this: modern man assumes that there are such things as chemical affinity, molecular attraction, electrical current, for the same reason that primitive man as-

Comparison of animism with higher stages of religious, philosophical, and scientific thought

sumes that there are *doubles* back of all material phenomena. By these assumptions each explains the relations which the phenomenal world bears to himself, and by a knowledge of these entities he seeks to control the forces and phenomena of nature for his own advantage. In both cases this control is obtained through a mastery of the symbols. These symbols may be the formulas of physical law, or they may be the totemic representations of *doubles*.

From animism natural religions, philosophies, and the sciences have evolved

In other words, the initiation ceremonies, with the totemic dances and incantations which follow, give to the primitive man that explanation of the universe that will enable him to secure a satisfactory adjustment to its demands. This knowledge of the world of *doubles* and the animistic beliefs that are thus acquired, serve the same purpose that is served in more complex society by sciences, philosophy, history, literature, and religion. In fact, it is from these primitive animistic beliefs that the sciences, philosophy, and the natural religions have evolved.

TRANSITION TO A HIGHER STAGE. — The characteristic feature of primitive education, then, is its non-progressive and imitative character. The primitive man seeks to adjust himself to his environment as he finds it and as the previous generation has done. He has little consciousness of the past as a form of life to be preserved, or of the future as offering opportunities greater than those of the present. He lives in the present; hence there is little tendency to change, and that is accidental. That "the least developed people are the most averse to change" is a well-established principle of the sociological sciences. Nevertheless, through the various stages of savage and barbarian life some advance, though wholly unconscious or irrational, can be traced in the following respects: —

Character of the earliest teachers

(1) **A Teaching Class.** — While the ceremonial performances are participated in by all the men of certain groups, yet they are usually under the direction of certain designated persons. Certainly the acts of incantation and of sorcery, which aim to placate the spirits and obtain control over them through manipula-

tion of symbols, are in the hands of a special class possessing unusual power over unfriendly spirits. These men are variously called shamans, wizards, exorcists, medicine men, or familiars. They form the earliest teachers. As the friendly ones in the spirit world become more numerous and powerful, the familiars develop into a priest class. At first this class is made up of the heads of the family groups; but as the duties of the father become more manifold and this worship of the friendly spirits becomes more complex, a special priesthood is designated. There is now some instruction for the populace by the priesthood in general, and a more elaborate and formal instruction of prospective members of the priesthood by certain of their own members. These latter are the first professional teachers. For many centuries teaching remains as a special right of the clergy, and for many centuries more education is supervised and directed by the clergy alone. Before this stage has been reached, however, primitive society has developed into the earliest phase of civilization.

The priesthood forms the first clearly differentiated teaching class

(2) **Subject-matter for Study.** — By the time a special priesthood is formed, this interpretation of life or experience has become so complex and the ceremonial has become so complicated that it is necessary to commit it to permanent form. Hence arise written languages. These form the chief mark of distinction between the barbarian and the civilized stage of social organization. For the priesthood, then, there comes to be a special subject-matter of study; namely, the forms of the written language and the content of the literature. All early literatures are consequently of a religious nature. Out of these, as illustrated by that of the Chaldeans and of the Egyptians, grow the earlier cosmologies, philosophies, and sciences; on them are founded advances in the arts. This literary instruction — their esoteric learning — is reserved for the priesthood alone. For the multitude there is the exoteric instruction given by the priesthood. This consists for the most part in directions as to formal conduct and worship, — the "what and how to do" of action.

Formation of written languages

Early religious literature the first subject-matter for study

(3) **Elaboration of Method.** — So long as education con-

Early educational method, training through imitation

sists simply in learning from the adult generation or from a special religious class "what to do and how to do it," there is little of method but training by imitation. This method prevails for a long time after the primitive organization of society has given way to the political organization characteristic of civilization. But with the formation of a special priesthood and the elaboration of a written language and a literature, there arises the inquiry, "Why should these things be done?" For the priesthood itself this gives rise to *instruction* as distinguished from *training*. During the earlier stages of civilization this is peculiar to the priesthood alone. For example, schools for the people were not established by the Jews until a short time before the opening of the Christian era. The education of the masses was the practical training of the home; the theoretical training — that in religious ceremonial — was by the priesthood.

Instruction added to training in education of the priesthood

These characteristics indicate a transition to a stage higher than primitive education

The education based upon a written language, given by a specially designated class, and including formal instruction as well as practical training, represents a higher stage in educational development than that found among primitive peoples. The earliest types of this stage are to be found in Oriental societies.

SUMMARY

With primitive peoples practical education is unorganized and is provided for through direct imitation of adult by child. Theoretical education consists in transmitting to the younger generation the general body of knowledge or the animistic beliefs which constitute their interpretation of life's experiences. This transmission is accomplished through various ceremonies. The initiation ceremonies are the most important of these, educationally. From animism develop the natural religions, early philosophies, and rudimentary sciences. With the formulation of these, written languages are invented, and a special body of knowledge accessible to a few is developed. This forms the subject-matter of a higher stage of education. Along with this there develops a special priesthood differing from the familiars or exorcists on the one hand, and from the common people on the other. This priesthood becomes a special teaching-class for all. As they organize to teach prospective members of their own order, the first school emerges. With the formation of definite curriculum, teaching-class, and school, the primitive stage in education is passed, and the early stages of civilization are reached.

CHAPTER II

ORIENTAL EDUCATION. EDUCATION AS RECAPITULATION

THE SECOND STAGE IN EDUCATIONAL DEVELOPMENT is represented by people in the earliest stages of civilization and by those Oriental nations that still preserve the characteristics of early civilization. Consequently many historic systems of education are to be included in this stage. Since our interest is in historical evolution and not in the antiquarian study of details, we shall consider carefully only one system, that of China, with brief reference to others. For of all these systems, the Chinese not only is the most elaborate and of longest duration, but also offers the best opportunity for study in the present.

CHINESE EDUCATION. — The Written Language. — In this second stage in educational development, formal education centers in the mastery of the language and literature. A brief explanation of the nature of the Chinese language will indicate why this is true in their case, and will serve as an illustration of the dominant characteristics of all such systems of education.

Chinese language consists of many thousand ideographs

The characters of the Chinese language represent ideas, not sounds: it is an ideographic, not a phonetic, language. Consequently it has practically as many characters as it has ideas. Like the arithmetical digits, these characters have a meaning primarily for the eye, not for the ear. Most authorities estimate their number, exclusive of obsolete words and synonyms, at about 25,000. Considering as totally different those characters to which a stress mark gives a different meaning, other estimates make the number 260,000. When it is remembered that this list is practically to be learned like our alphabet, even the smaller number presents an appalling task for the schoolboy. However, many of these 25,000 characters are seldom used. In fact,

the nine sacred books, which form the bulk of their educational material, contain less than 5000 different characters. Again, it is to be remembered that there are six distinct types of handwriting — similar to the script, Roman, italic, black-letter, of the English. These are the ornamental, the official, the literary or pattern style, the common hand, the running hand, and the angular style similar to printing. Of these forms several must often be acquired. But more important than this so far as concerns the schoolboy, it is to be remembered that this language of the school is practically a dead language and hence has little connection with that which he uses in his every-day life. Moreover, verbs have no tense, voice, or mood; nouns have no gender, number, or case. Since the meaning and use of a word are determined altogether by collocation, — by its relationship as shown by position or by stress of voice, — the very simplicity of the grammatical structure adds to his difficulty. The use, then, of a literary style, — that approved by scholarly standards, — is acquired only after years of practice of a most rigidly imitative character.

Differs from spoken language

Chinese Literature. — The character of the literature and the use made of it will indicate further the extent to which this education consists in the mastery of literary form. In addition to being a "dead language" — that is, not the spoken one — for many years, it carries little meaning to the student. "It is," says Martin, "as if our schoolboys studied Latin alone, and were compelled to commit to memory the leading Latin classics, so that they could be repeated without a single error, and yet with no knowledge of what the words, much less the literature, meant."

Their literature a dead language to the schoolboy

The *Four Books* and the *Five Classics* composing their sacred literature are about equal in bulk to the Old and New Testaments. Their content relates wholly to external forms of conduct, similar to some portions of the Old Testament. There is seldom any formulation of general principles. These sacred texts are the productions of Confucius (551–478 B.C.) and of his followers,

Religious books the basis of their education

and form the basis of the fundamental religion of the Chinese, — Confucianism. While Buddhism and Taoism furnish a ceremonial and a rationalistic religion, Confucianism in a remarkable way unites social and political ethics with private morality, and absolutely dominates Chinese education. The following brief selection embodying the highest ethical principle of Confucianism — that of filial piety — illustrates its characteristic features: —

Selection from Confucian Text. — "1. The sovereign and king orders the chief minister to send down his (lessons of) virtue to the millions of the people.

Confucian precepts concerning the proper conduct of children

2. Sons, in serving their parents, on the first crowing of the cock, should all wash their hands, and rinse their mouths, comb their hair, draw over it the covering of silk, fix this with the hairpin, bind the hair at the roots with the fillet, brush the dust from that which is left free, and then put on their caps, leaving the ends of the strings hanging down. They should then put on their squarely made black jackets, knee covers, and girdles, fixing in the last their tablets. From the left and right of the girdle they should hang their articles for use: on the left side, the duster and handkerchief, the knife and whetstone, the small spike and the metal speculum for getting fire from the sun; on the right, the archer's thimble for the thumb and the armlet, the tube for writing instruments, the knife case, the larger spike, and the borer for getting fire from wood. They should put on their leggings and adjust their shoe strings.

3. (Sons') wives should serve their parents-in-law as they served their own. At the first crowing of the cock, they should wash their hands, and rinse their mouths, comb their hair, draw over it the covering of silk, fix this with the hairpin, and tie the hair at the roots with the fillet. They should then put on the jacket, and over it the sash. On the left side they should hang the duster and handkerchief, the knife and whetstone, the small spike, and the metal speculum to get fire with; and on the right, the needlecase, thread, and floss, all bestowed in the satchel, the great spike, and the borer to get fire with from wood. They will also fasten on their necklaces, and adjust their shoe strings, etc." [1]

The Work of the School consists first in the mastery of these language forms; second, in committing to memory the sacred texts; third, in the study of the almost innumerable com-

[1] Müller, *Sacred Books of the East*, Vol. 37, p. 449.



mentaries on these texts, for the purpose of developing a li
ary style similar to that of the sacred writings.

Reading is for mastery of forms of language

Reading. — For several years school work is devoted to cc
mitting to memory the characters of a series of six text-boo
The third of these, the *Millenary Classic*, will serve as a t
of all. It consists of one thousand characters, no two
which are alike in form or meaning, but which are arran
to secure both rhythm and rhyme. With the memorizing of t
text a considerable portion of the characters of the language
mastered, but how complex the task when compared with
mastery of our alphabet! It is true that the content of so
of these texts consists chiefly of moral maxims, and that tl
the child gets some guidance in conduct. This, however,
incidental.

Writing, also, is purely formal imitation

Writing is also mastered in the elementary schools.
account of the number and the intricate nature of the Chin
characters and the similarity between many of them, this i
far more difficult task than with us. Yet success in the liter
examinations depends to a considerable extent upon the call
raphy of the contestant. Throughout the period of elem
tary education, little or no relation exists between the writ
and the reading. The characters the child learns to write
probably has never seen before, and they afford no assistance
his other studies. Only when the pupil reaches the essay-w
ing stage, are the two combined.

In the study of literature, mastery of formal literary style is the chief aim

Mastery of Literature. — Higher education is devoted to
memorizing of the nine sacred classics together with many
the commentaries upon them. Here some mastery of cont
is necessary, but attention is centered chiefly upon the forn
literary structure. The duration of this period of higher edu
tion is indefinite. It is terminated only by the passing of
governmental examinations which admit to official positi
Thus it happens that many spend the greater part of a lifeti
preparing for an office to which they never attain. Instan
have been known of father, grandfather, and grandson part

pating in the same examination — and hence engaged in the same studies.

Literary Composition. — For the purpose of developing an ability to imitate the formal literary style of the Chinese, many more commentaries on the sacred classics must be studied than are committed to memory. This ability is the final test of an educated person, and is to the Chinese the noblest achievement of the human mind. To this devotion of an entire educational system to the development of power to imitate in formal essays the literary structure of a dead language, a striking parallel is found in the Latin prose and verse composition of English and American schools of past generations. With the latter, however, it was but a means; with the Chinese it is the end. Moreover, there is an immeasurable difference in the content of the literatures which served as models of literary structure.

An approved literary style is the highest attainment

The Organization of Education is twofold. There is, first, a system of schools; and, second, a system of examinations conducted by the state and serving as the controlling part of their educational system.

Schools.—Elementary schools, wherein is mastered the curriculum as previously described, are found in practically every village. Such schools are supported by private tuition, patronized voluntarily, and taught by unsuccessful candidates for the degrees or by those less fortunate recipients of the lower degrees who have found no office awaiting them. Schoolhouses there are none to speak of; school is kept in any vacant room of a private house, of a temple or public building,—most often the ancestral or Confucian temple,—or it may be in a shed, or in any covered nook or corner. School days are long and continue practically throughout the year. The schoolboy, as also the schoolmaster, is sharply separated from those of his own years and relationship. He must devote all of his time to learning, and is disgraced by any labor or even by amusements such as fall to the lot of common mortals. Though the expense is very

Schools numerous and unsystematized

but affect a small portion of the population

moderate, only a small number of children attend these schools. As but one in twenty of the children who do attend ever get beyond this elementary grade, and as a much smaller proportion ever reach the coveted degree with office attached, it is, from one point of view, the most wasteful system imaginable. For while it accomplishes the general social results desired, the educational effect upon the ninety-nine hundredths that fail is valueless. Furthermore, this education unfits them for participation in any ordinary occupation in life, except with loss of prestige. Thus most of them must turn to teaching, and, in a population where the struggle for existence is abnormally severe, the profession that is held in highest honor becomes one of the worst remunerated and the most burdensome.

Teachers honored but ill-rewarded

Beyond the elementary schools there exist in the larger cities numerous, or at least occasional, higher schools where students, through study of commentary and practice in essay writing, are prepared for the examinations.

Higher schools

The Examination System is the central feature of the Chinese educational system. By it all students are tested; through it all public officials are selected; for it all studies have been prosecuted. Its prizes are the greatest offered in Chinese life. After the preliminary examination, there are three examinations for degrees, all of which are held under the auspices of the government. The degrees are those of "flowering talent," "promoted man," and "entered scholar" or "fit for office." The first examination is held once in three years in each district capital by the provincial literary chancellor; the second is held, usually some months later, in the provincial capital; the third is held at longer intervals at Peking and is open only to those who have passed the preceding examinations.

The three governmental examinations for degrees and for office

These examinations consist in writing verse and prose essays on various themes taken from the sacred writings. The essays of the first examination must be completed in one day, though the contest is often repeated. Those for the second examination take three days; those for the third take thirteen days. Each

Examinations consist of essay writing in verse and in prose





A Chinese School. A Boy "backing his Book"



Examination Cells and Official Pavilion at Chentu, China

examination, successfully passed, carries its own rewards, in the form of decorations of dress and of the household dwelling, in the right to honored places at feasts and public occasions, and in exemption from corporal punishment. From the unsuccessful candidates in the lower examinations come most of the school teachers; from the successful competitors for these degrees the minor officials are chosen; from the successful competitors in the highest examination are selected the chief officers of the empire. From those that pass the third examination a few are selected by private examination before the Emperor to form his cabinet. This examination carries no degree, but admits to membership in the Imperial Academy. On rare occasions the Emperor may select from these, still by competitive examination, the consummate flower of literary perfection of 400,000,000 people. Formal educational systematization can go no farther.

Rewards for success in these examinations

While these examinations now affect directly but a small portion of the immense population of China, they set a standard of excellence for all, and select, to rule in the present, those who are best able to conserve the past, because of their knowledge of it and ability to imitate it.

This examination system perpetuates the structure and ideals of Chinese society

Some statistics of 1903 will indicate the extent of this system. There were 1705 matriculation centers where the preliminary tests were held; 252 centers for the examination for first degree; 18 for the second degree — one, at least, containing 30,000 examination cells or rooms; and one for the third degree. Only 28,923 bachelor's degrees could be given to the 760,000 competitors; for the somewhat rarer master's degree, or "promoted man" examination, but 1586 competitors were selected out of a total of 190,300. Not to mention the million or more that were preparing for the preliminary examinations, there were 960,000 men preparing for these examinations, of whom all but 1839 were destined for failure.

Number of candidates for degrees

The Method of Chinese Education is that of direct and exact imitation. In the lower stages it is purely a training of the memory. "The object of the teacher is to compel his pupils,



School work is chiefly memorizing of text; method is that of direct imitation

first, to Remember, secondly, to Remember, thirdly, and ever more, to Remember." The school of the Chinese is a "loud school"; each child takes the appropriate text and shouts aloud the passage until it is impressed upon his memory. When the assigned task is complete, he recites, or "backs his book," by handing the book to the teacher, turning his back, and reciting the passage in high key and rapid speed, without any knowledge, necessarily at least, of its meaning. "The attention of the scholar," to quote from Smith, "is fixed exclusively upon two things, — the repetition of the characters in the same order as they occur in the book and the repetition of them at the highest attainable rate of speed."

Imitation in essay writing

It would seem that the writing of essays, as the great outcome of this system of education, possesses peculiar merit, in that it is a test of ability or power rather than a test of knowledge. But this merit is in appearance only; for the ability is again wholly one of imitation. The one who can imitate the construction, the metrical form in poetry, the balanced structure in prose, of their sacred literature, is the successful theme writer. It is as though our whole aim in school were to develop the ability to write essays similar in form, structure, and sentiment to the *Proverbs* or *Psalms*. While the ability to imitate the form might without doubt be readily developed in the average boy, the degree to which corresponding ideas of an original character could be called forth can be readily imagined. Or again, the success of the average schoolboy of a few generations ago in rivaling Homer or Virgil may be taken as a similar criterion. In reality the aim of the entire training is not to develop originality, but to suppress it; not to develop creative power, but power of imitation; not to produce literary ability, but the ability of the clever versifier and parodist.

Originality or variation suppressed

Chinese education is now undergoing radical reform

Changes in Chinese Education have occurred in recent years, owing to the conflict first with Japan and then with the Western nations. In 1898 the Emperor, by edict, substituted a system of Western Colleges for the examination system. This action was

too radical and was soon rescinded. In 1903 the Empress Dowager substituted examinations in Occidental sciences and languages for those in literary composition. These radical educational changes with others of a social character are proceeding rapidly at the present time.

Causes of difference in details of their educational system

EDUCATION OF THE HINDUS. — While the characteristic details of purpose, organization, method, and content of curriculum of Hindu education differ from those of the Chinese, its essential features are typically Oriental. The divergence in details from other Oriental systems is caused mainly (1) by the caste system and (2) by the more philosophic character of Hindu sacred literature. A partial cause of this divergence may be found in the Aryan origin of the dominant class; but the racial characteristics were the result of the fusion of this small Aryan element with an overwhelming pre-Aryan population.

The caste system

While the caste system, as well as the educational system, has been largely modified during the nineteenth century by English influence, it is the historic condition in which we are here interested. The Hindu castes are four: (1) The Brahmins, or priests: this class also furnishes all teachers, and controls all legislation; (2) the Kshatriyas, the warrior, or military executive class; (3) the Vaisyas, or industrial class; (4) the Sudras, or servile class. Altogether outside of the Brahminical social organization are the pariahs, or outcasts.

Education of the lower castes

The Sudras and pariahs received no formal education whatever. The members of the warrior and industrial classes had access to the literary schools kept by the members of the higher class, but never availed themselves of these privileges to any great extent. A knowledge of certain portions of the sacred texts, chiefly the ceremonial, and a memorizing of briefer portions was the extent of the education gained by the members of these castes. A training of a practical and professional nature was gained through the traditions and the customs of the home and of the village community. These two institutions were

in reality the schools. But neither in the schools of the Brahmins nor in the home or the village community did instruction in reading and writing form a part of the education gained by most of the members of these castes. In a caste system, where the child follows the occupation of the parent, the necessary training is provided automatically by a universal system of apprenticeship. Not only training in handicrafts, but such practical knowledge of arithmetic or other subjects as was essential would result from the apprenticeship training given chiefly in the family.

Education of the Brahmins

The elaborate literary education was reserved for he Brahmins. All members of this class were supposed to acquire a most minute knowledge of the sacred writings, and a general knowledge of the literature and the philosophical beliefs of the Hindus. Through this knowledge of religious writings and approved forms of conduct, the literary priestly class became the ruling class politically as well as socially and religiously. Theoretically every member of the group must devote his life to such studies and to the appropriate accompanying activities. Practically it was possible only for the most devout to follow the life of literary study and philosophical reflection. This literary ruling class in India differed markedly from that in China not only because membership was unattainable by any of lower class origin, but because, on account of its religious character, the enjoyment of the privileges of this life carried with it practically no obligation of immediate service to the community.

Sacred writings of the Hindus

Only through some knowledge of the Hindu religion and sacred literature can one obtain an understanding of this higher education and of its bearing, both in theory and in practice, on the development of the individual. The Hindu sacred writings, the Vedas, consist of four treatises, one for each of the three orders of Brahmins, and one for the guidance in conduct of the warrior or executive class. Each Veda consists of three parts: (1) the sacrificial formulas, mostly in verse; (2) instruction in the meaning and use of the former; (3) an abstract for the con-

venience of the priests. The second portion of each Veda contains a section of philosophical reflections or suggestions, out of which has grown the Hindu philosophy, and the study of which constitutes the most important part of their higher education. The chief aim of Hindu philosophy is to reduce the multiplicity of the phenomenal world to unity; the aim of their ethics, to change the chaos of the world of conduct to harmony; and the aim of their religion, to escape from the transitoriness and suffering of the present world into the peace and enjoyment of a life to come. The solution of their philosophical problem is found in mysticism; of their ethical and moral problem, in asceticism, with its isolation from the activities, interests, enjoyments, and evils of the present life. Their religion asserts not only the immortality of the soul, but its transmigration through successive incarnations, each dependent upon the character of the preceding life, and all subject to the evils and sufferings incident to this life of mortals. All individual existence, then, is an evil, morally and religiously as well as philosophically. The ideal is to escape from such sufferings, to terminate this process of reincarnation, by the absorption of the individual soul in the world soul. Nirvana, which means *extinction* or may mean perfect peace, wisdom and goodness, is their ideal. This can be obtained only through extinction of individuality. Thus we reach the highest philosophical expression of the Oriental hostility to individuality.

Characteristics of the Hindu genius

Hindu ideal of life

JEWISH EDUCATION.—In one respect the Jews formed a marked variation from the Oriental type. In regard to the moral and religious aspect of life, far more opportunity for the development of personality was given than with any other Oriental people. In this respect they contributed much to the development of Western culture. But in all other aspects of education, — school organization, school method, etc., — they did not vary from the Oriental type. In regard to schooling they were not nearly so advanced as were the Chinese. In fact, they did not possess schools for the laity until a short time

Contributed the moral and religious element to modern civilization

Tardy development of educational system

before the loss of their national organization. Following the return of Ezra (458 B.C.), synagogues were gradually established in all the towns, and in them the law was expounded and religious services were held. Thus in addition to the ceremonial law to be observed everywhere, and the temple worship to be participated in at Jerusalem, the Jews had institutions for furnishing instruction, chiefly religious, throughout the land. In connection with the synagogues there grew up the scribes, or expounders of the law, who were teachers, and who came to rival the priesthood in power. Later, from the second century B.C., minor officers of the synagogue began to teach the children during the week. After the Maccabean revolt (167 B.C.) such schools became quite general. Reading and writing, hitherto taught together with the rudiments of arithmetic in a few of the well-to-do families, now came to be taught in a public school to the children of the masses. Soon after this period the Hebrew national identity, as well as national life, was lost, and their educational system never developed beyond these germs. All instruction of a literary character, as well as all instruction of the people by the scribes and priests, centered in the law, that is, in the Bible and the Talmud. It is to be remembered that this law, mostly moral or ceremonial precept but containing more of principle than other Oriental sacred literature, was imposed by external authority, either that of biblical revelation or of priestly authority. On the other hand, through their conception of personal Deity and their belief in close personal contact with Him and personal responsibility to Him, which ever formed a permanent factor in the Jewish religion, greater emphasis was laid by the Jew than by any other Oriental upon development of individuality in this one respect. But the period from Ezra to Christ was peculiarly one of the exaltation of the law. The conception of moral and religious personality, obtained not under the law objectively, but in and through a higher law, was reached only through the Christian religion and through the rejection of the ceremonial law. This con-

Educational aspects of their ceremonial religion

Literary instruction centers in the ceremonial law

Development of personality in its moral and religious aspects

Fruition in the Christian religion

ception was not clearly worked out till Jewish life came into contact with that of Greek and Roman. Hence this highest contribution of the Jews to education and to life, and that in which they differed most from other Oriental peoples, will be considered more fully in connection with the education of the early Christian Church.

THE CHINESE AS A TYPE OF ORIENTAL EDUCATION.— Oriental systems of education differ much in detail. While the Chinese system is more complex and elaborate than those of other Asiatic peoples, yet in its main features it is a type of them all.

Literature the center the formal education the Orientals

As with the Chinese, so with the Hindu, the Egyptian, and the Hebrew, education centered in the knowledge of a language technically complex and difficult of mastery, and in the possession of the lore of the past contained in its literature. In all cases that literature related largely to forms of conduct and religious ceremonial; and with the Hindu, the Egyptian, and the Hebrew it was the possession of the priesthood alone. If in China this learned class is not the priesthood, it is, as in the other cases, the dominant class in society.

The literary class is the ruling class Usually this class is the priesthood

In all instances the masters of this literature are steeped in the knowledge of the past, and are especially interested in preserving traditional ways of action. So far as the masses of the people are concerned, their education yet consists in being told "What to do" and "How to do it." With most Oriental peoples the class into whose charge the conduct of the masses is committed is the educated priesthood; with the Chinese it is the educated office-holders. For the masses of the people there is no formal education. Their informal education consists of the training in conduct and practical activities given by the priests, the literary governing class, and the adult generation in the home. For the chosen class there is a training in reading, writing, literary composition, and in the exposition of literature.

Education the masses and of the ruling class

For the individual no variation from established forms is permissible. In most minute details conduct is prescribed.

Individual variation suppressed by external authority

This dominance of some external authority is characteristic of all Orientals. In India this authority is exerted through the caste system; among the Hebrews, through the theocracy; in Egypt, through a combination of a priestly ruling class and a partially developed caste system; in China, through the system of Confucian education. Thus the Oriental is conscious of the past, as the primitive man is not; and he seeks to prevent any variation from it through individual initiative.

Results of this suppression of individuality

The result of this dominance of external authority in their life and of the development of an appropriate educational scheme to carry it out is twofold. Society becomes stable, but remains stationary. Both materially and spiritually civilization is non-progressive. Thus it happens that in such societies education most readily accomplishes the purpose assigned to it. It is true that this stability relates only to internal forces; but when a people is isolated, like the Chinese, such an education is effective for a long period. Neither individually nor socially, however, does this education give power of adjustment to new conditions.

Results on the thought life

On the side of the inner or subjective life, it is again the external and prescriptive that controls. All that belongs to the free spirit — the art, science, religion, education, of a Western people — is wanting, or tends to be wanting. In this the Chinese education is again typical. Art becomes external decoration; literature an effusive formulation wherein merit is in style, not in thought; science becomes occultism, and discoveries are the result of accident; religion emphasizes mere formal worship, in which there is often little room for free personality; morals are governed by traditional forms; education has no room for self-activity. If to these characterizations, as in the ethics and religion of the Jews, there are marked exceptions, such exceptions at least indicate the all-prevailing tendency.

Thus it results that among most Oriental peoples there is to be found an educational system of merit, often of long standing and of most successful operation. Such systems show an

accurate correlation between purposes and results, and must be ranked high on such a basis of judgment. Comparison with more modern systems, however, must be instituted upon the basis of the purpose of education.

School systems characteristic of Oriental society

The rapidity with which the Japanese have modified their ancient social structure and assimilated the culture of Western civilization, chiefly through the adoption of Western education, indicates the extent to which the characteristics of Oriental society are due to the established education rather than to inherent racial traits.

Transformation of an Oriental system into a modern system by the Japanese

The Oriental type of education aims simply to recapitulate the past, to sum up in the individual the life of the past, in order that he may not vary from it or advance beyond it. It aims to form habits of thought and action identical with those of the past, without developing any ability to modify or adjust habits to new conditions. So far as instruction is added to training, it is without any rational basis. It is not instruction in the sense of seeking to interpret to the individual the meaning of a social custom. At every point education consists (1) in indicating to the individual what to do, to feel, or to think; (2) the exact way the act is to be performed, or the emotional reaction expressed; and (3) in constant repetition until the habit is unalterably fixed. This is education as Recapitulation, which is the second stage in educational development.

This is the education of Recapitulation

SUMMARY

Transition from primitive society to the earlier stages of civilization is marked by the substitution of a political for a genetic organization of society and by the formation of a written language and a literature. The political organization of society indicates that individuality is now recognized and that the individual rather than the family or class is the social unit. The written language and literature indicate that society has now become conscious of the past and of established forms of conduct and has discovered means of preserving these accurately. Formal education with these early or Oriental types of civilization is directed (1) toward a mastery of these languages, technically difficult, (2) toward a mastery of the approved forms of conduct embodied in a sacred literature, and (3) toward the imposition



of such standards of conduct upon all the people. The last result is obtained by putting the control of society into the hands of the limited class which has mastered this language and literature and hence has a knowledge of the traditional and approved forms of conduct. To these customs the sanction of a religious significance is given. The class controlling society is the literary class, and usually forms the priesthood also. A system of schools results; with China a system very elaborate and long enduring. Definite curricula and methods of teaching are evolved. But the suppression of all individual variation becomes the conscious aim and the actual result. The general outcome is a social order which possesses stability, but lacks all progressiveness.

Chronological Survey of Greek Education

Political Events	Poets, Dramatists, Orators, etc.	Philosophers, Sophists	Writings Possessing Direct Educational Significance	Educational Events
First Olympiad 776 Dominance of Sparta . 750-600 Messenian Wars . 743-668 Laws of Draco 620 Laws of Solon 594 The Pisistratids . . 560-510 Laws of Clisthenes . 509 Persian Wars . 500-479 Athenian supremacy 479-431 Confederacy of Delos 477-450 B.C.	Homer flourished *c.* 900 or 850 Hesiod . . *c.* 700 Terpander . *c.* 676 Sappho . . *c.* 612 Thespis . . *c.* 536 Simonides 556-468 Pindar *c.* 522-*c.* 443 Æschylus 525-456	Thales . *c.* 624-548 Anaximander *c.* 611-547 Anaximenes *c.* 588-524 Pythagoras *c.* 580-500 Heraclitus *c.* 525-475 Anaxagoras *c.* 500-428 Zeno, the Eleatic fl. *c.* 460-440	*Iliad* . . . *c.* 850 Laws of Lycurgus *c.* 850 or 800	Parental duty in education in Solon's Laws . 594 Origin of the drama *c.* 536
Age of Pericles 459-431 Peloponnesian War. . 431-404 Sicilian expedition . . 415-413 Spartan supremacy 404-371 Retreat of the Ten Thousand . 399 Theban supremacy 371-362 Philip of Macedon . . 359-336 The Sacred Wars . 346-338 338 B.C. Battle of Chaeronea	Sophocles 495-405 Euripides 480-406 Phidias . 488-432 Herodotus *c.* 484-*c.* 425 Thucydides 471-400 Aristophanes 450-385 (Old comedy) Xenophon 434-359 Menander 344-292 (New comedy) Demosthenes 384-322	Gorgias . *c.* 485-380 Protagoras *c.* 480-411 Prodicus . fl. *c.* 435 Socrates . 469-399 Antisthenes 422-371 Plato . . 420-348 Isocrates . 436-338 Aristotle . 384-322	Thucydides' *Peri-cles' Oration* 431 Aristophanes' *Clouds* . 423 Plato's *Protagoras* Plato's *Republic* *c.* 395 Plato's *Laws* *c.* 350 Xenophon's *Economics* *c.* 380 Xenophon's *Memorabilia* . *c.* 380 Xenophon's *Cyropedeia* . *c.* 380 Isocrates' *Against the Sophists* 390 Isocrates' *Exchange of Estates* . 354	Protagoras teaches at Athens . 445 Trial of Socrates 399 Isocrates establishes a school at Athens . 392 Founding of the Academy 386 Founding of the Lyceum 335
Macedonian supremacy 338 Alexander the Great . 336-323 Battle of Issus 333 Alexandria founded . 330 Ptolemy I (Soter) 322-285 First invasion of Greece by Gauls . 279 Ptolemy III (Euergetes) . 247-222 Agis (Sparta) *fl.* 244-240 Cleomenes (Sparta) *fl.* 236-222 Destruction of Corinth—Greece a Roman province . 146 Egypt a Roman province 30 A.D.	Theocritus . *b.* 324 Polybius *c.* 205-*c.* 123 Strabo *c.* 63 B.C.-*c.* 24 A.D.	Epicurus . 341-270 Zeno . . *c.* 350-260 Chrysippus 280-207 Pyrrhon . . *c.* 330	Aristotle's *Politics* *c.* 330	Museum at Alexandria founded 280 Euclid systematises geometry *c.* 250
	Plutarch *c.* 46-120 A.D. Lucian *c.* 125-*c.* 192 A.D.	Philo of Judea 20 B.C.-40 A.D.	Plutarch's *Training of Children* *c.* 100 A.D. Lucian's *Teacher of Orators, Anacharsus*, etc. Gregory of Nazianzus' *Panegyric* 379	Imperial support for the University of Athens A.D. 69-79 University of Athens suppressed A.D. 529

CHAPTER III

THE GREEKS. THE LIBERAL EDUCATION

Opportunity for individual development

THE SIGNIFICANCE OF GREEK EDUCATION. — Chief Characteristics. — If the chief characteristic of Oriental education was the attempt to reproduce and preserve the past by suppression of individuality, the great significance of Greek education is found in the fact that here first was opportunity given for individual development. Consequently progress not only resulted, but was welcomed and indeed striven for. Social progress was the result of the freedom that was allowed in their organization of society for the development of various aspects of personality — of personal achievement and realization — and of the esteem in which every form of expression of individual worth was held. As a result of these characteristics, the Greeks first formulated that conception of education which we yet call *liberal*. This is the education that is worthy of a free man and will render him capable of profiting by or using his freedom. More nearly than to any other people of the past, did the problem of education appear to the Greeks as it does to us in the nineteenth and twentieth centuries. There is no other period until the later eighteenth century that is so full of suggestion to the educator of the present.

Social progress

The liberal education

The political aspect

Concept of Personality. — The Greek conception of manhood, of fully developed personality, was quite as broad as ours. It was the Greeks who first worked out the conception of political freedom in and through the state, and the idea that education was to fit for this citizenship. To the Greeks we owe the first attempt to secure the development of personality on the thought side. The love of knowledge for knowledge's sake found with



them its first devotees; inquiry into nature, into man, into the supernatural, here first was fearlessly attempted. With the Greeks, first of all, knowledge ceased to be the servant of theology and inquiry the special privilege of the priesthood. The application of the intellect to every phase of life was the task of the Greeks; it was they who first strove to live by reason. They first formulated the conception of man as primarily a rational being. As expressed by Socrates, the duty imposed upon each individual was to know himself. Consequently on the moral side also, the Greeks arrived at the conception of personality. Each individual found in his rational nature the sanction for determining his own ends in life; and in his moral nature the conception of these ends as shaped by his own being. Through the realization of his own nature, each must work out the things that life is to be lived for; science, art, philosophy, religion, are means to this end, and are to be made subservient to it. Thus moral responsibility and moral freedom, freedom under and through the law discoverable in one's own nature, were first conceived and applied to every individual by the Greeks. In one further aspect, the æsthetic, the Greeks determined the nature of personality. To them first and beyond all others was given the power of expressing a general truth in concrete embodiment. For art is but the embodiment of some truth, ideal, or experience of universal validity in such concrete form as can be comprehended by all.

The intellectual aspect

The moral aspect

The æsthetic aspect

Education and Life: Then and Now.—From yet another point of view, the work of the Greeks was to determine the things in this life worth living for. Aristotle says that the aim of life is "living happily and beautifully." And the best expressions of their civilization give us this knowledge, or at least indicate to us their realization of this high ideal. Add to this the one great element since added to civilization through the Christian religion, and the ideal now formulated for our life and for our educational process is but slightly more advanced. In this list — political freedom, intellectual freedom and attainment, moral freedom

Their aim — "living happily and beautifully"

Ideal of the Christian religion added later

and life, æsthetic appreciation, and power of accomplishment — we have made but one great change, that of substituting material achievement for the æsthetic expression of personality. This change is not an unmitigated blessing nor an unqualified advance.

Material achievement a modern ideal

Since the aim of education, as limited in the work of the American schools to-day, must eliminate the religious element, it can find no higher purpose than that of determining for each individual the things in this life that are best worth living for. Consequently no other phase of educational history has more significance for the student, or will better repay consideration of the means and methods adopted for securing this end.

Limitations in Realization. — It is not to be understood that the Greek ideals were without their limitations, or that the Greeks were wholly successful in carrying them out. The religious element in these ideals had little influence on many aspects of conduct. The ethical motive among the masses of the people was not sufficiently developed to prevent the toleration of many customs abhorrent to modern times. The position of women was little above that accorded them in Oriental society. The privileges of personal attainment were restricted to freemen, and thus denied to nine tenths of the population. As indicated by the custom of "exposing" undesirable children, little feeling of compassion was developed. Moreover, the Greek versatility bordered on the insincere, even the dishonest, while their light-heartedness often became frivolity and licentiousness. However, had they realized in the concrete all that is worth living for, modern education would also be merely one of recapitulation.

Standards of conduct in many respects not high

Women had few rights and little freedom

Tendency to the insincere and frivolous

PERIODS OF GREEK EDUCATION. — The emphasis placed upon personality by the Greeks and the opportunity given for its exercise were both matters of growth. The generally recognized division of Greek education is that into the Old and the New Greek periods, with the division point at the Periclean Age or the middle of the fifth century B.C. The Old Greek period

The Old Greek period included the Homeric, the Spartan, and the early Athenian education

is divided into, first, the Homeric Age and, second, the historic period, including both the Spartan and the early Athenian types. In all of these the dominant emphasis was on the social and institutional rather than on the individualistic aspect of education.

The New Greek period included, first, the period of transition in educational, religious and moral ideas during and following the Age of Pericles. This is the period in which the new philosophical thought was developed, and the new educational practices were shaped. The second of these subperiods extended from the Macedonian conquest (toward the close of the fourth century B.C.) until Greek culture was thoroughly fused with Roman life. By the time of the opening of this last subperiod, the philosophical schools had been definitely formulated, and during the period they were organized into the University of Athens. In her intellectual life Greece now became cosmopolitan and ceased to have distinctive characteristics aside from the philosophical schools.

The New Greek education included the period of transition and the period of cosmopolitan life and education

THE EDUCATION OF THE HOMERIC PERIOD contained the germs of all the subsequent development, but it possessed no specific institutional organization, method or control. It was an education that consisted essentially in a training in definite, practical activities with little or no place for instruction of a literary character. As the Homeric Greeks were just passing from the higher stage of barbarism into that of civilization, their education is similar in principle to that described in Chapter I. The training for the humbler needs of life was given at home. That for life's higher duties — those of general public service — was received in the council, in war and in marauding expeditions. In fact, the council formed the nearest approach to an educational institution that they possessed. The Homeric ideal, however, contained the germ of development. It included the twofold ideal of the man of action and the man of wisdom. The former was typified by Achilles, the latter by Odysseus. While these ideals were developed most highly in separate types, both wis-

An unorganized social process, as with all primitive people

The home and the council were the chief educational institutions

The man of action and the man of wisdom as ideals

dom and power of action were to be attained by each free Greek Phœnix says of his instruction of Achilles: —

"In all which I was set by him to instruct thee as my son,
That thou mightst speak, when speech was fit, and do when deeds were done;
Not sit as dumb for want of words; idle, for skill to move."

This union of thought and conduct in a life of action guided by reason remains the Greek ideal even as formulated in the later philosophical stage.

These ideals permanent ones

Ideals of Homeric Education. — These ideals contained several elements, each of which tended to develop during the later periods. The primary virtue of the man of action, the warrior, was that of bravery. Bravery, however, was to be tempered by reverence. The man who had no fear, like the man who had no sense of shame or modesty in his dealings with his companions or who was insolent in his attitude toward the gods or his elders, was guilty of irreverence. That is, he lacked proper balance in his action.

Bravery and reverence, the characteristics of the man of action

The Greeks were far more sensitive to fine distinctions of all kinds than any other people. This they revealed in music, in sculpture, in architecture and in literature. So, also, in regard to physical pain and in matters of conduct, a proportion or harmony, an avoidance of extremes, was the ideal.

Wisdom and temperance, the virtues of the man of council

The primary virtue of the man of council was good practical judgment in advancing his own material welfare, and in the service of the tribe or the community.

The other side of this ideal of wisdom was the Greek *whole-mindedness.* In order that good judgment be exercised, it was necessary that the desires and passions be brought under control. This control of the appetites by reason is the temperance, or whole-mindedness, of the man of wisdom; it is the balance, or harmony, in thought that corresponds to the balance in action demanded by their ideal of reverence.

Social and Individual Elements in these Ideals. — Now while these ideals, both of wisdom and of action, were dominantly

social, yet large scope for individuality was permitted. The attainment of these ideals, especially in the aspects of reverence and whole-mindedness or free moral personality, was made more definite and brought into far higher relief than in the primitive stages of civilization of any other people except the Hebrews.

The city state the dominant institution

THE OLD GREEK EDUCATION OF THE HISTORIC PERIOD was determined in its character and its organization by the dominant social institution, the city state. This institution, as the outgrowth of the tribe and council of the Homeric period, furnished the ideals and the basis of education, as did the family with the Chinese and the theocracy with the Hebrews.

Membership in the city state was at first limited to members of the old ruling families of the tribe, who alone, in the Aristotelian phrase, possessed "ancient wealth and worth." This privilege, however, entailed many duties.

Duties of a Greek citizen

As the head of a family, the Greek citizen had to perform the duties of a husband, a father, a priest, an owner of slaves. As a member of the village community, he added to these the duties connected with property, communal and family, and the elementary duties of government; as a member of a phratry, he added duties of a religious character; as a member of a tribe, duties of a military and political character. With the formation of the city state he added an expanding group of administrative and judicial obligations and certain others of a wholly new character now to be noted.

The ideal of worth, or virtue, becomes spiritual and hence more individual

In time there evolved, especially among the Ionian Greeks, an ideal of worth, or nobility, more largely spiritual than had previously been attained. As the ideal became immaterial, its attainment depended more and more upon the exertion of the individual. Admission to the chosen class was thus rendered possible for those not members of the ancient ruling families. According to this ideal, service to the state and superiority to the barbarians and the low-born could be shown only by attainment in those interests in life which the Greeks considered

Worth, or superiority, now more largely intellectual, æsthetic and moral

under the peculiar protection of the Muses — the fine arts, the sciences and philosophy. Nobility now became worth, or virtue, in the spiritual sense as well as in the more practical material sense. Ancient wealth and worth in the sense of property and birth were now considered not so much the essential elements of nobility, as presuppositions to the more spiritualized forms of wealth and worth. As Aristotle expressed the contrast, the aim of tribal and village organization is mere living, that of the city state is the *good* life. Worth in this sense could be attained and could be lost; and it was to be maintained at all times solely by a striving that not only was of service to the state, but produced, as the essential feature of the process, the development of free and clearly defined personality. This conception of nobility, or worth, was the bond which held the city state together, gave it its superiority, and, at the same time, became the ideal attainable in the life of every citizen. To produce this worth became the aim of education.

To produce such worth in the individual was the new aim of education

FEB 13

With Sparta the early ideals were formulated into a system of education which persisted throughout the period of her national existence

Spartan Education reveals the Old Greek education in its most pronounced form. Here there was no change from the earliest clear formulation of the ideals of action and of wisdom and no change in practice save by way of decline. After the definite formulation of this system of education in the constitution of Lycurgus, during the ninth century B.C., there was no more change in the Spartan ideal than in that of the Oriental type.

Influence of the natural environment and of the social and historic situation

The complete dominance of the state over the individual, secured through a system of laws which furnished at the same time the core of their educational procedure and the structural frame of their society, is explained by the peculiar environment and historical setting of the Lacedæmonian nation. The Dorian Greeks, including the Cretans and Spartans, representing as they did the earliest form of Greek culture in the historic period, replaced or conquered at about the Homeric period an earlier branch of the Hellenes, then in the primitive stage of culture.

To preserve their national existence from the dangers arising

from powerful neighbors, from a vast conquered population, and from internal insurrections, the Spartan people adopted the constitution of Lycurgus. This resulted in the most perfect example of a socialistic state and the most extreme case of governmental control of education with emphasis upon the educational function of various social institutions. In fact, society itself became a school, in which every adult member was expected to participate, as an important duty of citizenship, in the education of the young.

A socialistic society and a state education

It is not supposed that these laws were formulated *de novo* by Lycurgus; rather, that he recognized and strengthened old customs and at the same time introduced some new ones, especially those of an educational sort, from the related Cretans. This system of law or of education — since it was little else than a scheme for the training of the younger generation by the older — remained in force without modification until near the time of the Macedonian conquest. Though it then began to decline, it yet remained operative until the second century B.C. After this time its vigor much abated, and only the remnants of form were left. The details of this system have been most fully presented by Plutarch who is corroborated in the main points by Xenophon and Aristotle.

The constitution of Lycurgus; its origin and character

The Aim of Spartan Education was to give each individual such physical perfection, courage and habits of complete obedience to the laws that he should make the ideal soldier, unsurpassed in bravery, and one in whom the individual was sunk in the citizen. It was successful beyond any other scheme of extreme paternalistic education. The Spartan state possessed a stability and a record of military achievement unequaled by any other Greek state; the Spartan man, a bravery, power, endurance and self-control that was often wanting in the other Greeks; the Spartan woman, a dignity, a scope for activity in life and an ability to meet these opportunities that were denied, save in the early period, to women in other parts of Greece; and the Spartan youth, a reverential and obedient demeanor,

Courage, strength, power of endurance, obedience, patriotism, were their ideals

Effects of this education upon the state and upon the Spartan men women and children

a reserve in conduct, a stoicism under pain and habits of obedience that were possessed to a far less degree by other Greek boys. The reverse of the picture shows many defects. While the Spartans possessed a keen sense of humor, and while much of simple pleasure entered into their active life, there was but little place in their ideal for the "living beautifully and happily" of the Athenians. There was a lack of the finer sentiments and of Athenian sensitiveness to harmony in conduct and especially to the amenities of life or to its cultural aspect. There was wanting a sense of sympathy, of interest and of fellowship for others, which the isolation of Sparta preserved long after this narrowness had tended to disappear among the other Grecians. In the intellectual and æsthetic aspects of life, individuality was scarcely defined or developed at all. And finally Sparta did not participate to any great extent in the splendid artistic, literary and philosophical development which was the glory of Athens.

Defects of these ideals

The intellectual and æsthetic elements wanting

Organization of Spartan Education. — The Spartan state, which after Lycurgus was governed by an aristocratic senate and a democratic assembly composed of all free men, appointed a general superintendent of education — the *pædonomus* — and assistants. After a hardy training of seven years of infancy, during which time the boy was in the direct care of his mother, he was taken from the home and put under the charge of the assistants to the pædonomus. These cared for him in public barracks at state expense. The boys were here divided into successively smaller groups under charge of leaders chosen from older groups of boys. Of the boys over twelve, Plutarch tells us that "the most distinguished among them became the favorite companions of the adults; and the old men attended most constantly their places of exercise, observing their trials of strength and wit not slightingly and in a cursory manner, but as their fathers, guardians, governors, so that there was neither time nor place where persons were wanting to instruct and chastise them."

A state superintendent of education with numerous assistants

Self-government of the boys under the leadership of the *Irens*, or of older boys

Always under the careful supervision of adults

The entire life a schooling; all social institutions combined into school

This organization of the entire life of the boys constituted the school. The family, the shop, the church, the social life of other peoples, all were merged into this one educational institution. The boys slept in public barracks; they ate at common tables; they assisted in supplying the necessary food; they hunted wild animals under the direction of their Irens; they participated in the choral dances of their religious ceremonies; and finally all the remainder of their time was spent in the gymnastic exercises which constituted the chief instrument of their education.

Higher education in military and public service

From eighteen to twenty the boy was classed with the Irens who devoted themselves to the serious study of arms and to military maneuvers. During this time he underwent rigid examinations every ten days and spent much of his time in the instruction of younger boys. From twenty to thirty his training became but little differentiated from actual warfare, practiced during the intervals of peace at the expense of the Helots. At the age of thirty the youth became a man, only to continue both the complete devotion of his services to the state and to the training necessary thereto.

Content was chiefly physical and moral training

Content of Spartan Education. — Into this education there entered very little of the intellectual and æsthetic; it was dominantly physical and moral. Plutarch sums up the content of their education in these words: "As for learning, they had just what was absolutely necessary. All the rest of their education was calculated to make them subject to command, to endure labor, to fight and to conquer."

Intellectual training; "laconic" speech

There was much conversation and association with the elders, either at meal time or in the street, when the latter were wont to test the boys in repartee and ready speech, and to train them in ideas of justice and honor (especially in the later centuries of Spartan history). Some training in reading and writing was given.

Their music and dancing of a religious and patriotic character

Through the choral dances and religious ceremonies there was training in music, for which there must have been some private instruction in the use of instruments. To a large extent the training of Spartan youth came through the approved

Physical training

forms of exercises, — running, leaping, jumping, discus throwing, javelin casting, boxing, military drill combined with choral dancing, but above all wrestling. Hunting, the chief sport and occupation of their leisure hours, was at the same time a form of exercise quite as important as any branch of the formal curriculum.

Hunting was both a sport and a training

Aversion to professional training

With all their emphasis on gymnastics the Spartans had no gymnasium and no training of a professional character. The trained athlete and the beautifully developed physique — important objects of gymnastic training with other Grecian peoples — were alike foreign to their purposes. The resourceful and handy soldier, keen, cautious, self-controlled, fearless, pitiless, inured to all hardship, obedient to command, respectful to authority, able to act in unison with his fellows, and having that disregard for death that was by the Athenians accounted as insolence — he was the object of the Spartan training. Their music and their choral and religious dances were used to develop similar qualities. Since these dances consisted of intricate movements often in full armor, they accustomed the participants to concerted action.

The ideal soldier was the ideal Spartan

Moral training through direct and constant association with their elders

Moral Training. — The Spartan system of education gives a direct affirmative answer to the question, "Can morality be taught?" One means by which the moral results were obtained was the fact that all contests were in the open air, that all the boy's education — in fact all his life — was public. Hence the approval or disapproval of his elders was a constant source of discipline. The frequent conversation, either of an informal character or supervised by the adult in two ways now to be mentioned, and relating to moral or social questions, secured similar results. Plutarch describes the first custom in these words: —

"The Iren, reposing himself after supper, used to order some of the boys to sing a song; to another he put some question which required a judicious answer, for example: 'Who was the best man in the city?' or, 'What he thought of such an action?' This accustomed them from their childhood



THE DROMOS AT SPARTA

A Restoration from Falke's, *Hellas und Rom*.



A GREEK YOUTH ACCOMPANIED TO SCHOOL BY HIS PEDAGOGUE

From a Vase Painting



to judge of the virtues, to enter into the affairs of their countrymen. For if one of them was asked 'Who is a good citizen, or who an infamous one?' and hesitated in his answer, he was considered as a boy of slow parts, and of a soul that would not aspire to honour. The answer was likewise to have a reason assigned for it, and proof conceived in a few words. He whose account of the matter was wrong, by way of punishment had his thumb bit by the Iren. The old men and magistrates often attended these little trials, to see whether the Iren exercised his authority in a rational and proper manner. He was permitted, indeed, to inflict the penalties; but when the boys were gone, he was to be chastised himself if he had punished them either with too much severity or remissness."

Attachments of affection; the "inspirer" and "hearer"

The other custom, one most characteristic of the Greeks since it tended to occupy the same place in their society that romantic attachments or those of sentiment and affection occupy in ours, was that of the relation between "the inspirer" and "the hearer." The above quotation continues as follows: —

"The adopters of favourites also shared in both the honour and the disgrace of their boys; and one of them is said to have been mulcted by the magistrates because the boy whom he had taken into his affections let some ungenerous word or cry escape him as he was fighting. This love was so honourable and in so much esteem that the virgins, too, had their lovers amongst the most virtuous matrons. A competition of affection caused no misunderstanding, but rather a mutual friendship between those that had fixed their regards upon the same youth, and a united endeavour to make him as accomplished as possible."

Summary of moral results

In other words, every Spartan adult was a teacher, and every Spartan boy had a tutor, selected through mutual esteem. Teacher and pupil were bound together by no economic ties, but by those of friendship and affection. Through this companionship, usually outside of the hours of regular gymnastic training, the boy received a further training in justice, in honor, in patriotism, in self-sacrifice, in self-control and in honesty. It must be admitted, however, that while the Spartan moral training conserved certain elemental virtues, its effects morally, as well as physically, had a hardening, even a brutalizing, tendency. Other phases of Spartan education can only be mentioned. Unlike any

Relative high position of women and of children

Sturdy though crude character

other ancient people, they gave women practically the same kind of education as men — yet with no higher purpose than that of training mothers of warriors. While there was an absence among them of those grosser forms of immorality characteristic of early forms of civilization and constituting a blot upon the fame of Athens, they yet practically destroyed the family. While they possessed a sturdy character and the elemental virtues in a higher degree than did the other Greeks, they saw little of the beauty of life and possessed few of the graces of character. They have left us a type of education that produced physical strength and endurance, the homely moral qualities, strength of character under a despotic system of regulation and a citizen body strongly imbued with patriotism and devotion to a state that encompassed every activity and every interest in life. But to future generations they have left little save their example.

Neglect of the graces of life

Athenian Education during the Old Greek Period. — Save in the simplicity of aim and in the means adopted for training, the Old Greek education at Athens had little in common with that at Sparta. Even in these two general respects there was wide divergence in the relative values assigned to the various elements in the aim, as well as in the emphasis upon the various subjects of study. All that has been said concerning Hellenic ideals of life and that clear development of individuality worked out by the Greeks, applies with peculiar force to the Ionians and, above all, to the Athenians.

Contrast between the Spartan and the Athenian as types of the Old Greek education

The Organization of Athenian Education. — The citizen, guiding his life by reason, wise and judicious in his performance of the manifold public duties demanded by the state, yet free in the disposition of his leisure time and in his interpretation of social obligations, as well as strong in body and brave in warfare, could not be produced by an education thoroughly controlled by a despotic socialistic régime, as at Sparta. While Sparta deliberately destroyed the family, Athens aimed to preserve it as a means of developing and shaping personality, and placed upon it the burden of responsibility for education. All

Education based upon the family

schools were private schools; and the state provided directly for only that portion of education between the ages of sixteen and twenty, which was almost wholly physical and a direct preparation for military service. The state required a training in music and gymnastics; and while the freedom and the privacy of home life was not destroyed, certain results were demanded by law, and the process was supervised by the court of the Areopagus. This court had especial charge of the morals of the youth, and during the period in which it preserved its original authority, punished with severity grave lapses from the accepted standard of morality. Schoolhouses owned by the masters were quite common. The state may have provided some of the palæstræ, or elementary gymnastic schools, as it did, without any question, the gymnasia for advanced physical education.

The state established standards and supervised results

EDUCATION IN THE FAMILY. — The training of the child for the first seven years was wholly in the hands of the family. As at Sparta, this training was chiefly physical, since the chief concern was to secure a hardy constitution and a well-developed physique. The training in the family was not, as a rule, of so high a character as at Sparta. The child at Athens was usually given into the charge of nurses and slaves, while the Spartan mothers were famous throughout Greece for the careful physical and moral training they gave their children. A most interesting phase of child life, before the definite series of physical exercises in school life was taken up, is indicated by the fact that Greek literature mentions or describes a very extensive list of children's games, including practically all that we have to-day. In the home, on the street, in the country, the child's early education, then as now, was unconsciously furnished.

Education through play and games

SCHOOL LIFE began at about seven, and for the children of the free Greek families, save those financially unable, continued for eight or nine years. The age of entering, the length of attendance, and the subjects studied depended somewhat upon the standing of the family. In two respects Athenian education

Two types of schools: the music school and the gymnastic school

differed very widely from modern practice, — the Athenian boy attended two distinct types of schools, the music school and the gymnastic school, or palæstra, — and the character of work in these two schools was radically different from school work of modern ones. From the time he grew out of the care of the nurse, the Greek boy was in charge of a pedagogue, — a slave or servant, — who was intrusted with the moral oversight and general care of his charge. Too often one was chosen for this who from age, injury, or other disqualification was unfit for any other service in the household.

At about sixteen years of age the youth was freed from the care of the pedagogue, discontinued all literary and musical study, and replaced the training of the palæstra with that of the gymnasium. Here he associated most freely with youth of his own age and with adults. He was taught or trained in a variety of exercises by a state official, the *pædotribe*, and was under the general supervision of the *sophronist*, or moral overseer.

During the Old Greek period there were two of these public gymnasia, the Academy and the Cynosarges, erected toward the opening of the sixth century B.C., outside the city walls. Here in the midst of beautiful groves and extensive gardens, the sons of pure Athenians at the Academy, and those of mixed blood at the Cynosarges, passed two years in free association with their elders and in the physical contests and social and political discussions that prepared them for the life of the Athenian citizen.

The only intellectual training of the *ephebe* was this indirect one which he obtained from association with his elders. Through discussion in the agora, conversation at banquets, attendance upon the theater and the law courts, he gained that knowledge of the laws and moral customs necessary to direct his conduct. Moral delinquencies that argued any lack of appreciation of the responsibilities of citizenship brought him before the court of the Areopagus.

PUBLIC EDUCATION. — Having completed this two years of

preparatory training and demonstrated to the officials that he met the moral and physical requirements of citizenship, he was enrolled among the list of free citizens, took the oath pledging fidelity to the state, the gods, and the moral traditions of his people, was furnished in the public assembly with his equipment as a soldier, either by his father or, if an orphan through war, by the state, and exchanged the dress of youth for that of the free citizen. There was yet a definite training in the use of arms and in general military discipline before he assumed the duties and privileges of full citizenship. This was the technical period of ephebic or cadet education, common to all Grecian people, though it varied in length from two years at Athens to ten years at Sparta. During the two earlier years of ephebic discipline, — that from sixteen to eighteen in the gymnasium, — the youth had remained under the control of parent or guardian. For these latter two years he passed under the direct control of state officials. The first year of this service was spent in barrack or camp life in the neighborhood of the city, and was devoted to severe military training in the use of arms and in the conduct of practical affairs of the state. In the second year this life became that of the regular soldier in more remote garrisons, with the idea of acquainting the prospective citizen with the roads, frontier, and topography of his country as well as with the duties of a soldier. During the entire ephebic period no small part of this training in public service consisted in the participation of the youth in the religious and social festivals, as is depicted in the Panathenaic procession on the frieze of the Parthenon. In these festivals training in religious devotion and patriotism was combined with the cultivation both of the graces of life and of harmonious physical development. The end of the first year was signalized by a public examination in the use of arms; that of the second, by a similar examination upon the duties of citizenship which were thereupon assumed.

Entrance into citizenship; this conditioned upon one's education

Military and political training of the ephebes

Graduation into full duties of citizenship

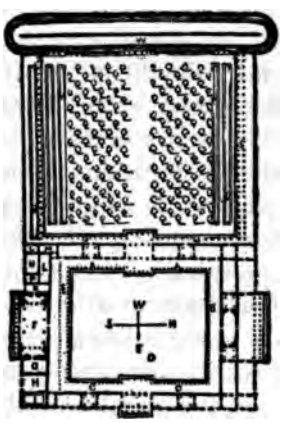
Even here the process of education did not cease, for the life of the Athenian citizen was one neither of private enterprise nor

Educational training of the citizen

of private indulgence. On the contrary, the state demanded such services of the citizen that a life of economic activity for personal ends was hardly possible, certainly not to the extent common in modern times. The pleasures of private life, whether amusements in sports and games, attendance upon the theater, or social gatherings for eating and drinking, were controlled, for social ends, by the Athenians, though somewhat less directly than by the Spartans. The state and the entire social life became a school in which, although effort for physical perfection was not neglected, yet greater emphasis was laid upon intellectual and moral growth. Thus was obtained the highest conception of the elements of nobility, or virtue, that constituted the ever developing "worth" of the Athenian citizen.

All social activities possessed a definite educational value

Gradual formulation of this educational system



PLAN OF A GREEK GYMNASIUM.[1]

While this organization of education did not become clearly defined in all of its details, probably not even in its chief stages, until late in the Old Greek period, it formed the full expression of the Old Greek ideals and was a feature of Greek life during the fifth century. The definite training of the ephebes was the latest phase of this early educational development to take shape.

Unique position of gymnastics

The Content of Greek Education: GYMNASTICS. — The most striking contrast between Greek and modern education is found not in its organization, but in its content, especially in the importance

[1] A, B, C, porticoes with seats where the philosophers and sophists taught; E, double, covered portico; F, ephebium, or hall for exercise for youth, seats were provided here also; G to P, rooms for hot, cold, and tepid baths, for anointing the body, for sprinkling the body with dust, etc.; Q, R, S, porticoes for exercises in inclement weather and in winter, also used for peripatetic instruction; U, uncovered walks and running tracks; W, stadium for public contests, with provision for a multitude of spectators; in the center is the grove.

given to gymnastics. In the period of school life from seven to sixteen, fully half — and before the fifth century much more than half — of the boy's time was given to the palæstra. The formal education of the ephebic period, including the two years in the gymnasium and the two years' garrison duty, likewise consisted, for the most part, in physical training. And yet from all this the Greeks got much more than mere physical development Moral results were no less important. *Whole-mindedness*, or temperance, — the control of the passions and the emotions by reason, — was thus obtained. Above all, the coördination of thought and action, the fitting of conduct to precept, of word to action, was secured through this same training. There resulted that harmony between the inner thought life and the outer life of conduct which formed the ideal of the Greeks.

Moral value of gymnast education

Games and physical contests were not indulged in haphazard as with the modern youth, nor participated in by the few for the entertainment of the many. Nor were the standards of excellence the same as modern ones. Success consisted not so much in the winning of the contest, as in the evidence given of the proper form of the exercise, in graceful and dignified carriage, in control of temper and of skill. Above those exercises that called for display of mere force were prized such games as called for quickness of perception and evidence of courage, or "pluck." Succeeding the games of little children there were used a great variety of games with the ball and of contests in running, together with a multitude of children's games and simple forms of exercises or calisthenics. In the schools these exercises were organized into a more definite course of study called the *pentathlon*. This included, in succession, jumping, running, throwing the discus, throwing the spear and wrestling. Wrestling developed into boxing with the open palms of the hands and into the *pancratium*. This latter was a combination of boxing and wrestling, in which hands and feet, in fact, any means of discomfiting one's opponent, might be

Organizatio of games

Results to b gained

The pentathlon

used. At Athens, however, this was reserved for the older boys and was always under strict control of the gymnastic teachers or directors. To these a variety of other exercises were added.

Inclusive meaning of the term *music*

MUSIC, to be understood in a much broader sense than is given in the modern meaning of the term, constituted the second portion of the Greek curriculum. "Gymnastic for the body, music for the soul," was their conception of an education. Music in this sense included all that came within the activities presided over by the nine Muses. Hence poetry, the drama, history, oratory, the sciences, as well as music in the more limited



GREEK MUSIC SCHOOL, FROM VASE PAINTING, ABOUT 450 B.C.

sense, came to be included within the scope of this term. It is in the restricted meaning, however, that it formed the larger part of the education of the Greek boy in the earlier period. In the music schools the Athenian boy from early morning till sunset spent most of his time not given to the palæstra. The earlier years of childhood were devoted to memorizing the Homeric poems, with portions of Hesiod. Later, in the historic period, selections from the lyric and didactic poets were added. Beyond this memoriter work, the tasks of the school consisted chiefly in explaining the meaning of words, phrases and obscure allusions. After a few years devoted to the mastery of this

Work of the music school

Mastery of Homeric poems

literature, wherein the early ideals of Greek life are expressed in a form that had imperishable influence on each succeeding generation, the boy was taught to chant these poems to an accompaniment on the lyre.

For many generations this constituted all of the intellectual education of the Athenian boy and, even after writing and reading became common during the sixth century, continued to form the major part of it. However long it might take the boy to acquire the ability to play the lyre, mere technical skill was never the end. The task of the boy was similar to that of the work of the old bard. The playing of the lyre, in the school sense, was

Technical skill not highly value



REVERSE OF SAME VASE

the improvising of an accompaniment in harmony with the thought expressed in the passage repeated. Here was demanded not only insight and understanding in the interpretation of the poem, but skill and creative ability in the construction and performance of its accompaniment. In both respects there was a demand for individual ability and initiative, and hence there resulted a development of personality quite foreign to any preceding type of education. Indeed, it is to be doubted whether education as a process of developing creative power — power of expression, of initiative and of appreciation — has ever been given a more fruitful form. It is in this sense that the

A constructive or creative process

Greeks expected and accomplished so much from their musical education.

Music developed not only this power of appreciation and expression, but it produced as well a harmony of soul corresponding to the harmony of the body produced by gymnastics. In this connection Plato says: —

Plato's estimate of the educational value of music

"Harmony is not regarded by him who intelligently uses the Muses as given by them with a view to irrational pleasure, but with a view to the inharmonical course of the soul and as an ally for the purpose of reducing this into harmony and agreement with itself."

Details of work of music school given by Greek vases

The two accompanying illustrations of the music school are taken from a vase painting dating from about 450 B.C. by the Athenian artist Duris. On each side of the vase there are five people: two pupils, two masters, and a pedagogue who has accompanied the boy to his master and remains to look on, to assist, or merely to return home with the boy. It probably is an exigency of the representation of the artist that each boy has a master, for we know that a single master had many pupils, though most of the instruction, save in the chorus, was individual. On the one side, the boy in one group is learning to play the lyre; in the other group he is repeating a portion of a poem which the master holds in book or scroll form. On the other side, the boy is either learning to sing, or is repeating a poem to the accompaniment by the master on the flute, or is learning to play the flute; in the other group instruction in writing is represented, the master holding in his hands a *triptych*, or folded wax tablets, and either correcting an exercise or setting a model. On the wall are hung musical instruments, flute cases, rolls and satchels for books, and on each wall a cylix, or drinking cup, like that from which the illustrations are taken.

Reading and writing introduced about 600 B.C.

READING, WRITING AND THE LITERARY ELEMENT of education are thus included in the work of the music school. Reading and writing were introduced into the schools about 600 B.C., but long before this the Homeric poems were taught orally, as they continued to be afterward. Filling a function similar to that

performed by the Bible in the education of our own people in earlier generations, the *Iliad* and the *Odyssey* furnished to the Greeks moral guidance, æsthetic inspiration and practical direction for every need in life. Though they contained much that could not but be of detriment in the moral education of the young, the explanation of such passages was much the same as that made in case of similar passages in the Bible. On account of this influence, however, Plato would limit the study of the poets to certain carefully chosen selections.

Educational value of the Homeric poems

The full development of this literary element is the dominant characteristic of the New Greek period. Reading and writing are thus incidental in the early period. The higher moral results of this education were obtained in no small degree without their assistance through the possession of the literature, transmitted by the spoken word. The processes of reading and writing were acquired much as they are with us, or have been until recent times. The ordinary alphabetical and syllabic methods were used. But in reading there was much more of educational value than with us, because of the important training in power of discrimination or in judgment. This was due to the use of accent and to the fact that words were written continuously without a break, and hence the separation of one word from another was required. Likewise there was no punctuation, so that it was necessary that the child should get the idea in order that the reading might even be intelligible. After some years of this practice, much emphasis was placed on beautiful reading, preparatory to further work in declamation.

School work becomes dominantly literary only in the New Greek period

Methods of reading

Arithmetic, other branches of mathematics, and drawing were not introduced until later. So the results of Greek education, great though simple in their harmony, were obtained chiefly from the simple curriculum of poetry and music.

Practical branches

DANCING remains as the one element in the Old Greek curriculum yet to be mentioned. This might have been included under gymnastics, but it was more than physical exercise and training. In a way it might have been included under music,

Moral and social value of dancing; a form of correlation of studies

for it was but the expression of harmony of thought through rhythmical motion. It differed from modern dancing in several respects. Since it was the rhythmical movement of the whole body, there was much more of exercise leading to harmonious physical development. Since it was chiefly religious or civic or military in its character, its aim was not merely the pleasure of the individual. Having these social motives, it possessed a content of thought as well as of emotion, and an outcome of moral as well as æsthetic training. Such dancing for the most part was performed in companies, civic processions, military drill, or religious worship, or at least in preparation for these, so that it was a training in harmonious action with others. Dancing was the union of the harmony of thought and emotional experience expressed through music, and the harmony of physical development produced through gymnastics.

Moral purpose dominant in gymnastics and in music

The Moral Purpose of Greek Education is thus indicated by the results they hoped to gain from the use of each element of its content. We have already noted that the gymnastic education was designed to produce certain moral results, such as control of temper and the general subjection of the passions to reason; that through this training, patience, endurance, fortitude, courage, loyalty, devotion and a consideration for the rights of others were to be developed. Concerning the moral ends of the musical education, a sentence from the description of a school by Plato will bear repeating: "They [the music teachers] make rhythm and harmony familiar to the souls of boys, that they may grow more gentle, and graceful, and harmonious, and so be of service both in words and deeds; for the whole life of man stands in need of grace and harmony."

In one sense all of the training in the school and the home had a religious bearing, since even the athletic contests were in honor of the gods; but in the sense of a differentiated interest in life and one connected largely with the life to come, the religious element played little part in the Greek boy's education. The moral education of the Greek, being less directly connected with

religion than in the case of most peoples, adopted one other means quite unique. By the direct association of the boy with an adult, as a child with the pedagogue and as a youth with the "inspirer," the Greeks brought about in a most practical way the moral education of the young.

Moral tra ing in the home and in the scho

Thus while the gymnastic and music teacher could give the boy the elements of these branches, the truly educative process had to be based upon other than economic grounds. Though all his teachers united in giving him dignity of bearing and of breeding, becoming manners, grace of conduct, modesty, reverence for elders and respect for laws, these special teachers furnished him a direct model for the formation of character which the boy must approximate through conscious and unconscious imitation acquired through constant association.

The teache a model to imitated

The Method of Greek Education finds in this custom its chief characteristic. So far as their education was an imitation, it was not, as with the Oriental, an imitation of fixed form or dead custom, but of a living model, possessed of strong personality and stimulating to the development and expression of individuality.

Method of direct imit tion of livi models

So far as it was a direct inculcation of certain qualities, it was by the immediate example of these virtues lived by the teacher. For the Greek boy education always had an attainable aim, since he possessed a concrete, definite model by which to shape his character and direct his conduct. Education was not a formal, lifeless process, but a living of a type of life full of activity and pleasure, of expression of self and of attempt at concrete forms of virtue made real to him through the conduct of an "inspirer."

At the present time, when so much emphasis is laid upon expression, or the constructive and doing side in education, one other aspect of Greek method is of special significance. Greek education was first of all a doing, only in the second place a learning process. Early action was shaped directly by authority. Just as our schools devote most of their time to the shaping of the child's ideas by authority, so the Greek

The constru tive or doin side em- phasized

schools devoted their efforts to the shaping of conduct. In these schools the boy learned to run races, to jump, to wrestle, to excel in physical exercise and contests, to play the harp, to recite poetry to the accompaniment of the harp, to read and declaim, to dance. It is all "a doing," — a formation of habits, of courtesy, of graceful bearing, of temperance in thought and action, in control of emotions and passions, and in giving expression in action to the ideas of harmonious, beautiful and virtuous conduct in life. Only afterward does it become a learning. When the habit is once formed by exercise, training must be followed by instruction in order to make the habit permanent by making it rational. Instruction then aims to replace arbitrary authority with reason as the basis of virtuous conduct. Instruction thus produces this harmony between the inner life and the outward action. The relation between instruction and activity or expression, as developed in modern education, is thus reversed. The Greeks held to the scriptural principle that if one does the deed, the knowledge of doctrine will follow.

Instruction follows in order to render habits rational and permanent

NEW GREEK EDUCATION: TRANSITIONAL PERIOD. — **Character of the Period.** — The Old Greek education resulted during the fifth century B.C., in a brilliant period of personal achievement and national progress which has never been surpassed in history. The culmination of this period was the Age of Pericles. During and immediately preceding this period the highest products of Greek civilization were attained. In politics such men as Themistocles and Pericles controlled her destinies; in art the work of Phidias and Myron and the construction of the Parthenon are evidences of their taste and their achievement. Herodotus and Thucydides laid the foundation of the science or art of historical writing. The tragic drama reached its perfection in the work of Æschylus, Sophocles and Euripides; and comedy, in the plays of Aristophanes. In every aspect of human activity and human thought there was a similar creative effort and an achievement that is beyond comparison with that of preceding historic periods. But this period of frui-

The Age of Pericles, or the flowering of the Greek genius

tion was also one of transition and of origins. While the old education laid the foundation for these achievements, it was insufficient to meet the demands of the times and altogether inadequate for future needs. The life of this period made greater demands upon the individual and offered greater opportunities for personal achievement, consequently it required an education suited to the period, — one wherein the chief emphasis was laid upon individual development rather than upon service to the city state, and wherein the individual was not merged in the citizen. The answer to this demand was the New Greek Education.

Greater demands upon the individual and greater opportunities for him

Transitional Forces. — As a result of the Persian war, Athenian life was merged into Greek life as a whole, economic relations and commercial activities were extended, industrial interests were developed, and a hitherto unknown toleration of foreign teachers grew up. Toleration of new ideas led to criticism of old ones and finally to modification or rejection of much that had been characteristic in previous periods. Even before this flourishing industrial and commercial period was reached, economic and social causes had been at work in producing revolutionary political changes. The old aristocratic constitution was replaced (509 B.C.) by the democratic one of Clisthenes. All free inhabitants of Attica were admitted to citizenship. All these now served in the popular law courts or in the assembly. Many officers were chosen by lot as in the case of the modern jury. To the popular assembly was given the power to *ostracize*, or banish by secret ballot, any citizen considered dangerous to the public welfare. Under this system of free government the political power, the material prosperity, and the culture of the citizens increased with rapid strides.

Economic changes; increase of wealth

Political changes; growth of democracy

The highest literary product of the old period was the tragedy: during the latter part of the fifth century the most characteristic literary form was the comedy. The problem underlying all tragedy was the conflict of duty and interest; its theme was always ethical; its occasion was that of religious worship. The theme of comedy was social and political; its characters

Literary development; the comedy succeeds the tragedy

were drawn from contemporary life; its purpose was to entertain. As a satire on the pretensions, shams, follies and extravagances of every phase of life, its very nature indicates that in real life self-interest had won the victory over duty.

Development of introspective psychology and of philosophy

Akin to the change in literature was that in philosophy. The early philosophy of the Greeks had sought for some explanation of the physical universe, — its constituent elements and its relation to man; to the new teachers, philosophers, sophists and students such knowledge seemed impossible. The new thought turned its attention inward, and in the activities and the nature of the mind sought to determine the nature of reality.

Mythology replaced by rationalistic, moral and religious ideas

A similar change occurred in religion and morals. The old mythology was rejected, — or preserved for the unintelligent masses alone. In its place was substituted a naturalistic or rationalistic explanation of natural phenomena. In place of the old morality, founded on the institutions of the city state, of the family, and of the worship of the household gods, was substituted a new morality based upon self-interest or upon rational enlightenment. Extreme skepticism and unreasoned conservatism came into conflict. There could be no question as to where the ultimate victory would lie. Skepticism in belief led to freedom, even license, in conduct. The orderliness, the dignity, the gravity, the devotion to public need, of the old Greek life, was replaced by a greater frivolity, a disposition to place personal gratification above public service and a general disposition to allow the individual to determine his own ends in life and to select the means for their attainment.

Greater freedom for individual demanded

The Demands upon Education made by these social changes, political, economic, ethical, literary and the like, were twofold. There was first a demand for greater freedom for the individual in thought and action to correspond with this growth of freedom in the political sphere. Second, there was a demand for a training or an education that would enable the individual to take advantage of the unprecedented opportuni-

ties for personal aggrandizement and achievement. There was now demanded an ability to succeed in a democratic society much like our own, and to control the votes and command the approval of an intelligent populace where the functions of printing press, telegraph, railroad and all modern means of communication were performed through public speech and private discourse, and where the legal, ecclesiastical and other professional classes of teachers did not exist. No means, however, existed in Athenian society, as organized under the old régime, for giving to the individual such training as would provide for personal achievement in place of civic service. Such instrumentalities now appeared in the form of a new class of teachers, the *sophists.*

Also a better training to meet the new opportunities

The Sophists were the new class of teachers that arose in answer to these new demands. Like many terms, such as pedagogue and politician, the term "sophist" is used in both a generic and a specific sense. In the broader generic sense the sophists were Greek teachers, not usually native Athenians, who saw the defects in the existing organization of education at Athens and offered to the youth of the city the training so much in demand as a preparation for a career of personal aggrandizement in the political and social life of the times. They were students of affairs who through wide travel had picked up the current learning concerning natural forces and phenomena, political life, social institutions and popular questions of the day. Many of them gave merely a formal training that often consisted in furnishing their pupils with set speeches upon given topics to be repeated upon definite occasions, such as trials before the courts, or with smart sayings and fragmentary information to be used whenever chance opportunity offered. Many gave a more thorough course in the study of questions of the day and in the rudimentary, natural and historical sciences of the times as well as a training in dialectic power through discussion and in rhetorical power through public speech. They themselves taught through formal discourse or lecture. Two characteristics

Double significance of the term *Sophists*

Sophists not native teachers

Formal character of their teaching

rendered them especially disliked by the thinking Greeks, especially those of a conservative character; the one was the profession of their ability, as indicated by their title, *wise men*, to give information on any subject; the other was their demand for remuneration for their services. With the charlatans among their number — and they were probably not a few — this took the form of offering to impart to any one any subject or any ability, if the remuneration was sufficient. Since power in argumentation constituted the great desideratum, it was the boast of many of them that they could give one the ability to argue either side of any question with equal facility. These two characteristics ran counter to some of the fundamental and most worthy traits of old Greek life. The former violated their principle of harmony and reverence and bordered on the insolent. The latter was contradictory to their idea that development of character, which was the inclusive aim of education, could result only where the relation between teacher and pupil was based upon mutual esteem and where the financial nexus was altogether wanting. Consequently there arose toward the sophists a most violent antipathy expressed by all the writers with conservative inclination, and a natural desire upon the part of Plato and the members of the philosophical group to differentiate themselves from the despised class, however much they might have in common with it.

Pretense of teaching all subjects; teaching for pay

Opposition of conservative Greeks aroused

Sophists teaching the natural outcome of growing individualism

The moral teachings of the sophists placed an unprecedented emphasis upon individuality. As a class they did not teach immorality, for they held no common system of views. The only idea common to all was that there were no universal ideas or standards of conduct. In the words of Protagoras, one of the greatest of them, "Man is the measure of all things." As this meant the individual man, the tendency long developing in Greek society toward giving individuality more and more emphasis in moral life and in the educational process here finds its culmination. Naturally many found no basis for continuing the old customs, and a period of great laxity and even dissoluteness

followed. The immorality of the sophists, then, was a negative one, to be found in their exaltation of the individual. The individual now found a place distinct from and above his life as a citizen. From the point of view of the Old Greek, the sophist tendency was an immoral one. From the point of view of modern thought it is seen to be a necessary critical stage, destructive of the old, but clearing the ground and even laying the foundation for the new.

Their immorality a negative one

At best, the work of the sophist, which as defined by Socrates was to teach young men "to think, speak, and act," had no unworthy motive and was no insignificant service to the state. Only in two respects, to which the modern world can hardly object since both are accepted in modern education, can the sophists as a class be held to be teachers of immorality. They did believe that morality and wisdom could be taught theoretically, whereas in the Old Greek education these had been the products of a practical training in certain activities. And they did hold that the basis of morality was to be found within one's own intellectual and moral being. Morality was to be based on reason and not, as in the old period, upon custom and tradition, as revealed in their religious thought and institutional life. Nevertheless these very views did much to encourage the tendency to unrestricted individualism and contributed much to the demoralization of Athens. The term *sophist* continued in use for many generations. Even in the Christian centuries it was applied to the teachers in the universities as practically synonymous with the modern term *professor*. Yet the sophist in the original sense, as a teacher attached to no institution and to no one locality, and as one who professed to give instruction on all subjects, was characteristic of only about a century.

Represented a permanent change in educational methods

Later use of term *sophist*

Resulting Changes in Education. — *In Content.* — The period of higher education from sixteen to eighteen, hitherto devoted to physical training and informal instruction in political duties, was now devoted more to a purely intellectual training. In private rooms, on the street, or in the gymnasia,

Education became more intellectual

the sophists collected this body of students, imparted the knowledge, and gave the rhetorical training desired. While the sophists drew largely from the ranks of the ephebes, their greatest influence was exerted upon those who had entered the period of young manhood.

Study of literary form

Literature, studied from the point of view of form rather than from that of content and for the purpose of pleasing and persuading the multitude, now came to be the basis of study. To the sophists is due the formulation of the grammatical and rhetorical study of language and literature. Most of them wrote treatises on some phase of language study.

In the music school the same emphasis was laid on literary study. Later didactic poets, offering opportunity for "hair-splitting" dialectics, were introduced. The tendency to introduce new musical instruments, the flute and the cithara with an increased number of strings, and new types of music, aiming more at subjective, pleasurable effects, indicates the tendency to allow individual pleasures and desires to control. In a similar way the introduction of the warm bath and the relaxation of the severity of the physical exercises in the palæstra indicate the growing love of ease. The extent to which these changes would develop individualism is evident.[1]

Instruction supersedes training

In Method. — With an increased emphasis upon study of form, with the growing importance of intellectual acuteness in discrimination between words, with the enlarged rewards for mere showy effectiveness, the old emphasis on training in moral habit as the basal part of education was replaced by the exaltation of instruction. The study of grammar and rhetoric, soon to be followed by that of other subjects, reversed the old order of method and made of their education a process of theoretical instruction. Education became more distinctly a school process looking toward intellectual and practical, that is, individual ends.

[1] For concrete details, see *The Clouds* of Aristophanes in Monroe, *Source Book in the History of Education for the Greek and Roman Period*, pp. 66–91.

The Results of the New Education, both in the century of transition and in the following period of complete dominance, were naturally of a twofold character. If one looks solely upon the darker side and is guided by the strictures of Plato, Aristophanes, and the conservatives, it was a period of extravagance in customs, of license in action, and of skepticism, irreverence and anarchy in belief. If, on the other hand, one tempers the views of these critics by what is gained inferentially from their own writings and more directly from writers less renowned, as is done by Grote (Chapter 67), it was a period of the greatest enlightenment in opinions, of moderation in policy, and of attainment in all the higher aspirations of life. In fact, as characteristic of a period of greatest freedom, both results might have been true. With its attendant benefits and its unavoidable evils the absolute freedom of learning and of teaching, the "Lern-und Lehrfreiheit," which is the ideal of modern higher education, was an actual realization in this period. Such evils are the necessary price to be paid for such blessings. With Athens, however, since such freedom attended not only learning and thought, but prevailed in the world of moral conduct, of political activities, and of the religious life as well, the cost was a heavy one and was paid to the uttermost.

Two views of the results

Both classes of effects necessary

THE GREEK EDUCATIONAL THEORISTS. — The Problem of the Educational Theorists was identical with the problem of educational theorists at the present. This problem is to formulate an educational ideal that will provide for institutional loyalty or social service, and at the same time permit or even necessitate the fullest development of personality; to organize an education on the institutional side so as to render this aim possible of realization by all; and to construct appropriate methods of instruction and training. The occasion for the work of the Greek educational theorists was the conflict between the New Greek education and the Old. The educational problem was similar to that of to-day. A few generations ago the content of education was almost wholly religious, and moral conduct

Similarity of educational problem then and now

Moral character to be produced by instruction and based on rationality

was regulated by a code of ethics based upon the authority of revelation. Now religious instruction and material are banished from the schools, and moral conduct must be developed through schoolroom instruction and rational training.

Relation of the philosophers to the sophists

In one respect the theorists agreed with the New Greek educators. They held the ideals as well as the process of the Old Greek education to be wholly inadequate. In another respect they agreed with the conservatives who rejected the New. They held the negative attitude of the sophists to be wholly inadequate and believed that some general moral bonds must be furnished. The attitude of the sophists toward knowledge was of the same negative and destructive character as their attitude toward moral principles. Along with the ancient standards of conduct, the previous conception of knowledge had come to be looked upon as antiquated and false, so that the sophists despaired of the attainment of any satisfactory interpretation of reality, of the universe, or of life.

Socrates' statement of the problem

Socrates (469–399) first stated the problem of the conflict between the Old and the New Greek education, between social and individual interests, and somewhat vaguely formulated the principles of solution. He accepted as his starting point the basal principle of the sophist teaching, "Man is the measure of all things." This he did in no superficial sense. If man is the measure of all things, the first obligation which man must assume is to know himself.

Knowledge *vs.* opinion as the basis of conduct

Within the consciousness of the individual, within the moral nature of man, according to this new teacher, is to be found the determination of the aims of life and of the purpose of education. Not, however, in this consciousness as mere opinion. A characteristic of this age was the dominance of opinion. Questions relating to natural phenomena, natural forces, political policy, economic procedure, moral principles, were all thrown into the arena of public discussion. As questions relating to the operation of economic laws, of jurisprudence, of finance, are often settled nowadays by popular vote, so it was then, under the

influence of the sophists, with a much wider list of subjects. "Come now, whether do you think that Jupiter always rains fresh rain on each occasion, or that the sun draws from below the same water back again," proposes Strepsiades in *The Clouds* as a fertile and typical subject for the exchange of opinion. Against this sway of opinion Socrates set himself with all the force of his wonderful personality. As opposed to the purely individualistic basis of opinion, Socrates held that knowledge possessed universal validity. From this basis he arrived at his fundamental principle, "Knowledge is virtue." By guiding conduct by those ideas that possess universal validity, instead of by mere opinion, one lives the virtuous life. The aim of education, then, was not to give the offhand information that, combined with superficial brilliancy of speech, constituted the ideal of the sophists. It was to give knowledge to the individual by developing in him the power of thought. Every individual has within himself the power of knowing and appreciating such truths as those of fidelity, of honesty, of truthfulness, of honor, of friendship, of wisdom, of virtue, or has the possibility of acquiring his power. This is the phase of knowledge in which Socrates was interested, — the knowledge which is derived from one's own experience and which is the basis of right conduct.

Knowledge is virtue

The Socratic Method. — The teachings of Socrates had two purposes. The first of these was to demonstrate that knowledge lies at the basis of all virtuous action; the second was to indicate that knowledge was to be developed by each individual from his own experience by means of the dialectic method. Knowledge, he held, is the prerequisite of free action; it is the basis of right action in all the arts. This is preëminently true of the highest of all arts, the art of right living. Such knowledge, Socrates held, was to be gained not from the mere opinion of the individual, but only by a search for that which was common to all and was universally valid.

Development of knowledge through dialectic

But the individual is unable without training to discover that which possesses universal validity in his own experience and in

Aim of education to develop power of thought

his own consciousness. Such truth is to be gained only through the process of dialectic. Consequently the aim of Socrates' work and his view of the general aim of education was to develop in each individual the power of formulating these universals. His custom was to begin a conversation by asking for information, thus getting the views of his companion which he seemed to accept and espouse. Then through adroit questioning, these original opinions were developed in the words of the person to be instructed, until the folly and absurdities of the superficially formed opinions were fully shown and the supposed possessor of wisdom was brought face to face with consequences that were either contradictory to the original opinion or so absurd that the opponent confessed either the error of his opinion or his inability to reach a satisfactory conclusion. This first part of the method

The Socratic *irony*

of Socrates, designed to bring conviction of error, is the ironic. By further questioning, the whole truth, of which the original opinion was but a fragment, was then developed. Socrates

The Socratic *maieutics*

termed this latter work maieutics, — the art of giving birth to ideas. This is the method fully revealed in the Socratic dialogues of Plato.

Emphasis on the importance of knowledge

Influence on Method and Content of Education. — The immediate influence of Socrates' teaching upon education was twofold. In regard to content there was an unprecedented emphasis on knowledge. This coincided with the similar influence of the sophists who professed to give the knowledge demanded by the new condition of the times. But since the knowledge of Socrates contained a compulsory moral import, it was a much broader conception than the knowledge of the earlier philosophers, than the information of the sophists, and even than the modern conception of knowledge. Nevertheless, to the multitude, this distinction was hardly evident.

To both Socrates and Plato little mental improvement came from the direct impartation of knowledge. Against the popular methods of the sophists, which aimed to disseminate information through the formal lecture, these philosophers opposed the

dialectic or conversational method. The object of this method was to generate the *power* of thinking. Their aim was to create minds capable of forming correct conclusions, of formulating the truth for themselves, rather than to give them the conclusions already elaborated. Hence the method of dialectic came to replace both the method of formal delivery of the sophists and that method of training in habits through doing which was characteristic of the Old Greek education.

Emphasis on the importance of method and the power of thinking

This method is adequate when it is applied to the formulation of ethical truths. It enables one to determine what is the just act, what is right conduct, what is honorable, etc., since in all of these respects every individual has had concrete experience. The limitations of the method appear when applied to subjects, such as science, history and literature, wherein the content is not given by the experience of the individual, but is social. Such content subjects can be obtained only by methods other than the dialectic. The dialectic, Socratic or questioning method can give scientific form, classification, interpretation, but it cannot give content. The permanent as well as the immediate contributions of Socrates to education are these: (1) Knowledge possesses a practical or moral, that is, functional value, and consequently it is universal, not individualistic in its nature; (2) The process of attaining knowledge objectively is the conversational one, and subjectively is by reflection and classification of one's own experience; (3) Education has for its immediate object the development of the power of thought, not the impartation of knowledge. In these respects his influence has been as far reaching and is as potent to-day as is the influence of the practices in the Greek schools of that period. Consequently an exposition of his ideas and influence is a component part of the history of education.

Limitations of the Socratic method

Permanent contribution of Socrates to education

Plato (420–348 B.C.) — While the influence of Plato upon educational theory and upon the thought life of educated men has been lasting and profound, his influence upon school practice, either immediate or ultimate, has been slight. Hence

this discussion can but briefly notice a few salient points in his educational theory and his philosophy.

Plato agreed with Socrates as to the aim of education

Relation of Plato's Views to Those of Socrates. — Plato agreed with Socrates that the great need of the times was the formulation of a new moral bond in life to replace the ancient wealth and worth of Old Greek society rejected by the individualism of the New. Like Socrates, he attempted to formulate a new basis for the moral life which should give sufficient scope for the individual and at the same time provide ample recognition of the claims of institutional life. Plato agreed with his master that this new bond was to be found in *ideas*, in universal truth, in the intelligence through which men were united by nature. To him virtue consisted in knowledge, or in whole-thoughts as opposed to opinions. Socrates was content with this formulation of the purpose of education and of life and with the development of the power of attaining to this knowledge in the few whom he taught. But Plato, profoundly interested in the nature of these whole-thoughts, carried his investigation much farther. This work of determining the nature of knowledge, his metaphysics, is a most important part of Plato's philosophy.

Discussed the nature of knowledge as basis of virtue

Hence his metaphysics

Dialectic power, or "sense for ideas," limited to a few

In regard to method Plato also accepts and elaborates the dialectic of Socrates. He defines dialectic as a "continuous discourse with one's self." While Socrates found this power in all and conversed with Pericles or the street cobbler alike, Plato considered that this longing for the supreme good, this power of attaining knowledge, was to be found only in a few. To him this vision of eternal truth was a function of a special or sixth sense, a "sense for ideas." Hence, although the influence of Socrates fell in with the democratic tendency of the times, the influence of Plato was more reactionary. In his ideal schemes of education he returned to an aristocratic government of a socialistic nature. In this ideal republic philosophers were to be the rulers. The philosopher is he who knows the highest good. He alone can determine to what extent the phenomenal existence



approximates the idea and thus attains to the good. He alone, then, can determine that disposition of men and things which will result in the moral advancement and ultimate perfection of the race. Society must be so reorganized that this "lover of wisdom" shall control and direct its activities and relationships. Education should aim to develop this sense for ideas in every individual in whom the capacity exists, and should prepare and direct each individual through the guidance of the philosophers for the performance of those duties which by nature he is most fitted to perform.

Society should be governed by those possessing knowledge; *i.e.* by philosophers

The Republic, or The Dialogue on Justice, is Plato's exposition of an ideal society conforming to these requirements. While the educational scheme therein expounded has had little institutional effect, few books have exercised greater influence over the thought life of succeeding ages.

Plato finds in the individual these faculties: the intellect, whose virtue is prudence; the passions, whose virtue is fortitude; the desires or appetites, whose virtue is temperance. Therefore, when in the life of the individual the intellect restrains the passions, rules absolutely the desires, and thus controls action; when the passions serve as an ally of the intellect; when the desires render absolute obedience, — then the virtues appropriate to each are attained, and justice is maintained in the life of the individual. Thus it would be also in society if each class, corresponding to these faculties, should perform its appropriate function. Corresponding to the faculties of the individual, there are in society three classes: the philosophical class, devoted to the pursuit of knowledge, whose virtue is wisdom; the soldier class, devoted to warfare, whose virtue is honor; the industrial class, devoted to trade and crafts, whose virtue is money-making. If the philosophical class should rule; the soldier class, protect and defend according to the direction of the first; the artisan class, obey and support the other two, — then social justice would be attained.

Psychological analysis

Corresponding social analysis

Membership in these classes is to be determined, however,

Function of education for the individual and for society

by no rule of caste. Through a system of education which discovers and develops the qualifications of the individual for membership in that class for which nature has fitted him, virtue in the individual and justice in society are to be obtained. To education is thus consciously ascribed a much broader function than ever before; for it now is to provide for the fullest development of personality in the individual and for the maintenance of a perfect form of society. Through education the conflict between the old and the new Greek life is to be solved.

Details of educational scheme of *The Republic*

The education of children and youth outlined in *The Republic* is similar to that of the Athens of Plato's day. Gymnastics and music, the latter consisting of both music and literature carefully selected, form the substance of it. Higher education is divided into two phases, — scientific and philosophic. The scientific period extends approximately over the years from twenty to thirty and includes the subjects of arithmetic, geometry, music, and astronomy. Following this, five years are to be devoted to the study of dialectic, or, as we would say, of philosophy. This is the earliest formulation of the curriculum that has remained in vogue from Plato's time to our own, and his is the earliest full discussion of the educational value of these subjects.

The Laws is another of Plato's educational works. Written in his old age, it is reactionary in character and its outline of education resembles that of the Old Greek period.

Permanent value found in formulation of idea of liberal education

The Permanent Value of Plato's educational writings is to be found in the principles formulated. From his theory of ideas and his theory of the good, Plato develops in *The Republic* the fundamental ethical principle that each individual should devote his life to doing that which by nature he is best fitted to do, — that is, to accomplishing his own particular good in life. Thus he will attain to that which is the highest for himself and accomplish the most for society. From this there follows the fundamental pedagogical principle that it is the function of education to determine what each individual is most fitted by nature to do, and then to prepare him for this service. This is the for-

Formal ideal only

mulation of the Greek ideal of a liberal education. While it must be admitted that this solution is but a formal one, yet any practical solution is determined largely by a previous theoretical scheme. The value of a clearly formulated theory, which will give an ideal to work toward, is clearly indicated by the chaotic condition of our educational practice of to-day, which possesses neither formal ideal nor unified practice.

Education o women

In his scheme Plato provides the same education for women as for men and gives one of the earliest defenses of women's education. In this, as in other respects, Plato is far beyond his own and subsequent times. In many concrete practices, as well as in formulation of theory, his educational discussions have shaped the ideals of educators of all periods. His dialogues contain the chief exposition of the Socratic method. Consequently despite the impracticability of the scheme, *The Republic* must be considered as one of the most important educational treatises ever written.

Outcome in the formation of philosophical schools

The Practical Influence of Plato is to be seen in the formation of the philosophical schools of Athens (p. 75); in the direction which he gave to the work of these schools; in the determination of the school curriculum of many following centuries and in the final formulation of the Greek idea of a liberal education. In discarding the practical value of all the subjects of study as subordinate to that which they possess as mental disciplines, as a means for developing power of thought through use of the dialectic method, Plato gave the earliest formulation of the disciplinary conception of education as identified with the liberal education. It was the disciplinary rather than the liberal use of these subjects and the disciplinary rather than the liberal element in Plato's theories that survived during the Middle Ages. In one other respect Plato influenced the education of the following centuries.

Disciplinary value of subjects

By making it apparent that there might be a life of high aspiration and endeavor separable from and higher than citizenship, the way was prepared for the establishment of the Christian

Influence of Plato's theory on the spread of Christianity

Church. Even in *The Republic* the philosophers were, so to speak, outside the ranks of citizenship and exercised their control from without by despotic authority. In reality the philosophers of the Platonic group had little or no interest in public affairs. With the organization of these and similar groups of philosophers into schools, an institution extra-state, even extra-social, was formed. Membership in these schools came to be looked upon not only as permissible, but in the highest degree worthy. When the Christian religion was introduced, it was generally considered merely another one of these schools, holding peculiar doctrines, following ideals of conduct sharply differentiated from ordinary social customs, and considering the type of life represented by it as greatly superior to the life of the ordinary citizen. So it found the way well prepared, both in theory and in actual practice, by Plato and his followers.

Aristotle the most important of ancient educators

Aristotle (384–322 B.C.) was the one of these Greek educational theorists that had the greatest influence upon subsequent times. In his breadth of interests and activities he approximated modern times, and by common consent bears the reputation of the best educated man of any age.

Aim of education in knowledge functioning or in goodness

Formulation of the Educational Ideal. — To Socrates and Plato the bond which was to unite individual interest and social welfare and thus to serve as the aim of education, was knowledge; to Aristotle this aim was *happiness* or *goodness.* To the former, the possession of knowledge by the individual constituted virtue; to the latter, virtue lay in the attainment of happiness or goodness.

Virtue, then, consisted not in knowledge — that is, wise insight — but in a state of the will. A state of the will is not so much a condition as it is a process; hence goodness, the highest end attainable by man, is not a condition but an activity.

Reality to Plato consisted of ideas, — of pure thought. The highest possible attainment of an individual, then, was knowledge. Reality with Aristotle consisted in the accomplishment

of its end by any given object, entity or fact, — in the performance of its appropriate or highest function. Hence reality is activity, or performance of function, or a "becoming," whether it be a phenomenon of nature (physical) or of man (social).

Reality not ideas, but ideas functioning

The *good* for man is the functioning of the highest part of man's nature, that is, his reason. The reason functions when it controls conduct. Consequently there are two kinds of goodness, "goodness of intellect" and "goodness of character." The first of these is produced and increased by teaching and is the product of experience and time. Goodness of character is the outcome of habit. As nature does not give to some or withhold from some goodness of character, every man is capable of attaining or receiving this goodness by formation of right habits. Goodness as a whole consists, then, in *well-being* and *well-doing*. *Well-being* is the goodness of the intellect, connected closely with possession of the universal truth of the Platonic school and providing for the development and the welfare of the individual. *Well-doing* is the goodness of action, acquired through habituation, and represents the social aspect of the ideal. Virtue does not consist in mere knowledge of the good, but in the functioning of this knowledge, — of ideas or principles. In this respect Aristotle, while a foreigner to Athens, represents more truly than Plato the common attitude of the Greeks previously mentioned, in considering goodness as some form of efficiency or excellency, as some superiority in conduct rather than in a state of mind.

Goodness of intellect and goodness of character

These unite the individual and the social elements into one ideal

Happiness is the result of such activity, of such functioning of ideas, in actual life. Consequently man's highest excellence, his goodness, is again found to be the putting into operation, in his life with his fellows, of these ideas or principles of conduct of universal validity. Thus Aristotle gives the most perfect solution of the problem of life and the problem of the aim of education that was accomplished by the Greeks.

Happiness, a proper activity, the outcome

The Method of Education. — In brief, the method of Aristotle is objective and scientific, as opposed to the philosophical

The objective, scientific method favored

or introspective method of Plato. Plato seeks truth through the direct vision of reason and seeks the confirmation of reason only in the consciousness of man. Aristotle seeks truth in the objective facts of nature and of social life as well as in the soul of man, and seeks confirmation primarily in the historic consciousness of the race.

Formulation of the inductive method

To Aristotle the dialectic method of Plato, which sought truth in the supersensuous region of mind, produced truth of only formal value; he, on the contrary, sought for truth in the experience of the race, and developed as his method the inductive process. This he applied both objectively and subjectively. The Socratic dialectic had been applied only to the thought world. Aristotle first found the meaning of his terms and of his facts in the general consciousness of mankind. Then he sought for confirmation by the introspective process. The inductive and deductive processes of reason had been distinguished previously and, of course, as modes of thought, had been coextensive in their history with the history of the human race. But with Aristotle they became conscious procedures. He it was that first formulated the logic of each.

Practical application of the inductive method

Not only more widely than any man previous to his times, but also more widely than any man in subsequent ages, Aristotle used this inductive process. Since in the formulation of his philosophical system he applied it to all previous systems of Greek thought, he represents the culmination of the Greek intellectual life; and, on the other hand, since he applied it extensively to wholly new fields of investigation, he became the father of modern science.

Educational scheme of *The Politics* extremely practical

The Organization of Education, approved by Aristotle, is given in *The Politics*. Here, as with Plato, the system of education forms a component part of the system of the state. Not for more than two thousand years after this period is education again considered as a function of the state and treated as a part of politics.

The scheme approved by Aristotle is composed of elements

drawn chiefly from Athenian education and is similar in many respects to that of Plato. The child until six years of age should be trained by the parent. Beyond this period it should be controlled by the government, but at the same time the parent is also responsible for the moral education.

Gymnastic training should aim to develop good habits and control of the passions and appetites; it should not aim at mere superiority in athletics nor at the development of the roughness and ferocity of soldiers. The traditional subjects of music and literature are accepted as the appropriate means for moral and the earlier stage of intellectual education.

All citizens are to share in this education alike, though slaves and artisans cannot attain to citizenship and hence not to the good life, since "it is not possible to care for the things of virtue while living the life of the artisan or the slave."

The Politics only a fragment

The details of the higher education, that of the rational part of the soul, — the one phase of education which was an end in itself and constituted the good for all the rest, — are not given. The treatise ends here abruptly, and that subject upon which Aristotle, above all others, could have thrown light, is left with mention only. From his other discussions, however, we know that this higher education would contain a large element of mathematics, — especially of geometry, because of its training in deductive reasoning, — and also of the two mathematical sciences, physics and astronomy. From Aristotle's own example we may presume that it would include the biological sciences and, above all, dialectic, including both the philosophical and the logical studies so thoroughly developed in his own school.

Higher education not treated

The education and social service of the adult

Following this theoretical or intellectual education, or rather along with it, comes the practical education in citizenship. This includes two types of activities, the practical or executive and the theoretical or legislative and judicial. The citizen develops from the former into the latter and comes to devote more and more of life to purely intellectual pursuits. Finally those best acquainted with divine things enter the priesthood.

Thus gradually the practical life passes into the "speculative," and the lesser goods are developed into the highest good of all — the life good in itself.

Aristotle the first great scientist

Practical Influence of Aristotle. — It was no figure of speech that Dante used when he termed Aristotle "the master of those who know." *The Ethics*, the science of "well-being," and *The Politics*, the science of "well-doing," have exerted a profound influence upon the intellectual life of man at all subsequent periods. Aristotle was the first great scientist — the greatest systematizer, in fact, that the world has ever known. The basis for scientific thought in any line of intellectual activity was first consciously formulated by Aristotle in his *Organon*, a series of treatises on logic. So fundamental was Aristotle's influence in these respects that the scientific thinker as well as the person in everyday life is indebted to him for many of the most expressive terms in language. Such words as "end," indicating the final purpose or cause, the term "final cause" to indicate end in this sense, the word "form," the word "matter" and the term "subject-matter" as we use it in education (from the term indicating the timber which the carpenter uses), such words as "principle," "maxim," "motive," "faculty," "energy," "habit," "category," "mean" and "extreme" are all the results of his efforts to systematize knowledge.

Formulation of logical tools and terminology

Beginnings of the natural sciences

Through the partial formulation of the inductive method and the application of thought to new phases of reality, almost wholly neglected before his times, Aristotle became the originator of many modern sciences. Among those upon which he wrote treatises are *physiology*, *mechanics*, *natural philosophy*, or *physics* in its broader principles, and the corresponding biologic science, *natural history*.

Influence on the Middle Ages and subsequent times

Universally recognized as the greatest of the ancients, Aristotle was supreme down to the time of the fifteenth-century Renaissance. Through scholasticism (Chapter IV, Sec. 4) his work became the basis of all studies and of all educational institutions during the Middle Ages. In fact, it might be said that during

those ages all secular writings, save a few by this one man and a few others that were based directly upon his, dropped out of human interests.

His immediate influence in Greece was not so fundamental. His school of adherents, the Peripatetics, did not rise to his standard, made little or no use of induction, and spent their time in writing commentaries or fruitless interpretations and adaptations, mostly upon isolated topics. The writings of the master were carried to Asia Minor (287 B.C.) where for nearly two hundred years they were lost. When finally recovered, they found their way to the Alexandrian library and later to Rome. Through translations into Arabic the knowledge of Aristotle was kept alive among the Saracens. This study first centered at Bagdad, but later flourished throughout their empire, and was carried into Spain. During the early university period this Saracen learning brought about a revival of the interest of European peoples in the master and purified their knowledge of his works.

Immediate influence not so great

THE COSMOPOLITAN PERIOD OF GREEK EDUCATION. — **General Characteristics.** — The period of transition included about one hundred years. By the middle of the third century B.C., the individualistic tendencies had triumphed and the characteristics of the new education had become fixed. The intellectual life was held in high esteem; but it was a life of intellectual retirement. The relation of education to society and the obligations of the educated man to his fellows were now forgotten. If this was true of the more intelligent and moral classes, it could not be expected to be otherwise with those engaged in the practical life. For the latter, education had come to be an intellectual training to enable one to make the best use of his personal opportunities.

Culture and the intellectual life in high esteem, but individualistic in their nature

Two general educational features characterize this age, extending as it does to the period of the dominance of the Christian Church. The first of these characteristics is the: —

Spread of Greek Culture. — During this period Greek

Alexandrine conquests spread Greek culture

culture spread throughout the known world. Through the military and administrative genius of Alexander the Great the preliminary conquest was made; through learning, art and institutions the Greek conquest was made permanent. Within a century after Alexander's death (323 B.C.) the habits and customs of all the East were colored by those of the Greeks.

Greek schools, Greek theaters, Greek baths, Greek institutions of every type, were to be found in every city in the East. At the time of the Mohammedan conquest, after almost a thousand years of vicissitudes, the city founded to bear the name of the conqueror possessed 400 theaters, 4000 palaces, 4000 baths, and a library of 700,000 volumes.

A world culture replaces the national culture

Through the work of the Greeks during this period learning became, as it is now, universal; it was the possession of no peculiar people, and became independent of time and place.

As culture became universal and education individual in its nature, new types of educational institutions came into existence.

The second new educational feature: new types of schools

The Rhetorical Schools constituted one of these types. The wandering sophists (pp. 55–7), opposed so bitterly by Socrates and Plato, flourished for only about a century. By the latter part of the fourth century B.C., their work had differentiated and resulted in the formation of two distinct types of schools, the rhetorical and the philosophical. The work of the sophists and the philosophers had given scientific shape to the study of grammar, rhetoric and logic. In a brief time this work was formulated into a regular course of study with appropriate methods. Numerous rhetorical schools resulted. By preparing for the practical activities of life, through training in oratory and in the new knowledge of the times, these schools appealed very effectively to a large portion of the intellectual class and soon became numerous and influential.

The rhetorical schools were the practical instruments of this new culture

Isocrates the most noted of the rhetorical teachers

As Socrates formed the transition from the early sophists to the philosophical schools, so Isocrates (393–338 B.C.) represented a similar transition to the rhetorical schools. There were many similar schools before his time. But with him the transi-

tion from the teaching methods of the sophists to a distinct type of institutional work holding definite aims was complete. The school of Isocrates did much toward making Athens the center of the intellectual culture of the world; for schools like his continued to offer for many centuries the highest practical training not only to the Greek, but to the Oriental and to the Roman. While these schools were all private, they formed a component part of the higher educational system.

Four great philosophical schools and numerous minor ones

Dialectic and Philosophical Schools differed from the rhetorical schools in that they afforded a training in argumentative power. Their interest was in speculative questions of metaphysical or ethical import.[1] These questions were usually debated in private. Consequently such schools had little direct bearing upon public welfare; certainly they afforded no training for the practical activities of the day. Plato, Aristotle and other philosophers gathered around themselves groups of students that were soon organized into schools. Such groups were taught first in the public gymnasia and later in private grounds attached to these gymnasia. Plato taught in the Academy, Aristotle in the Lyceum. Zeno taught in the public porch (stoa) of a temple and founded the school of the Stoics; Epicurus taught in his own private gardens and founded the school of the Epicureans. Many minor schools also grew up. Each of these schools of thought, minor as well as major, not only embodied an intellectual training, but developed into a sort of religious cult. Such groups of philosophical teachers and students formed, as it were, secret religious societies which aimed to control the conduct as well as to determine the intellectual life of adherents. Allegiance to these was substituted for allegiance to the state, and thus these schools assisted in furthering the individualistic tendency at the expense of the state.

The character of the work of these schools became very different from that in the time of their founders. From the very first

[1] See Plato's *Dialogues* for types.

Their work was now that of exposition and comment; no longer that of investigation and speculative inquiry

the scholarchs — or heads of these schools — attempted to set forth the ideas of the respective founders. There was little attempt to apply the ideas of the great teachers in investigation, research or even in discussion of new topics. Their work came to be more and more largely that of appreciation and comment. Platonism, Stoicism and Epicureanism adapted themselves to phases of Roman ideals of life. But not only did the Lyceum fail to develop new doctrine; it did not succeed in keeping alive the old. For the most part the work of these schools, though directed toward a different object, became as formal and artificial as the work of the sophists. In all there grew up a reverence for the written word that had great influence, literary and religious as well as educational. Educationally this formalism was a distinct decline.

The Universities of the Grecian world were the outgrowths of these philosophical and rhetorical schools. While there were several such groups of schools, two alone are worthy of special mention and have been given the title of university.

University of Athens results from the combination of ephebic state training and the philosophical schools

The University of Athens resulted from the combination of three of these schools, the Academy, the Peripatetic school,— as that founded by Aristotle was called,—and the Stoic. Because of the depredations of war all had been compelled to move into the city. By a combination of the state education of the ephebes (p. 42), — which was now reduced to one year and had become optional,— with the more intellectual work of the philosophical schools a permanent institution was formed whose head was elected by the Athenian senate. The boys were required to attend lectures in the three philosophical schools, and teachers of rhetoric and logic were added. Students came to the new school from abroad; many of these being ill prepared, this gave opportunity for work to numerous private teachers, tutors, and assistants. In time there grew up the elaborate structure of a university, as we know it in modern times.

The Roman emperors, Vespasian (69–79 A.D.), who first gave

imperial support to the university, Hadrian (117–128 A.D.) and the Antonines (138–180 A.D.), were specially interested in making the University of Athens the center of learning for the Empire. While the professional staff was probably but ten or twelve in number, its work was supplemented by that of a large number of assistants and instructors, paid from the fees of the students, and by that of a large number of pedagogues who attended the younger and wealthier students.

Imperial support of the university by the Roman emperors

Student life was now prolonged to a period from three or four to even seven years in length. The ephebic organization degenerated into one resembling student clubs or secret societies.

As the center of classical learning and hence of pagan influence, the university aroused the opposition of the early Christian emperors and was suppressed by Justinian in 529 A.D.

Suppression of the university, 529 A.D.

The University of Alexandria, during the earlier Christian centuries, supplanted Athens as the intellectual center of the world. Under the influence of the Ptolemies (323–30 B.C.), the purpose of their master Alexander to make this new city the center of Greek influence, of power, and of learning in the East was carried out. They founded and supported a museum and library where men of letters and of science resided at royal expense. A most extensive collection of Greek, Jewish, Egyptian, and Oriental manuscripts was secured for this remarkable library.

University of Alexandria fostered by the Ptolemies

Its great library

Not only did Alexandria possess the manuscripts of Aristotle, but here alone, of all these institutions of higher learning, was the Aristotelian method of investigation employed. To be sure, this was during only one or two brief periods and then, for the most part, only in the subjects of astronomy and geography. Here was formulated the Ptolemaic theory of the universe, which, though wrong in its fundamental conceptions, was so nearly right in its methods that it served with remarkable accuracy as a basis for determining the motion of the heavenly bodies and the prediction of astronomic events. Here, too, Archimedes of Syracuse carried on most of his labors and made many of his

Astronomical, physical and mathematical investigations

discoveries in physics. Here Euclid perfected that branch of mathematics which bears his name. But for the most part, it must be admitted that the work at Alexandria, like that in the Grecian philosophical schools, consisted in little else than dreary comment and exposition of what the master or, more often yet, the corrupted manuscript version of the master said.

Influence on early Christian Church

Here the early Christian Fathers were educated, and from the north African intellectual centers proceeded that formulation of Christian doctrine that is yet accepted as orthodox.

With the fall of Alexandria into Mahometan power (640 A.D.), all this intellectual activity ceased. Some interest, however, was transferred to the Arabs, to be revived later in Saracen science and philosophy at Bagdad and Cordova. The library was destroyed by the first caliph, furnishing, it is said, fuel sufficient for four thousand public baths for a period of six months.

Greek cosmopolitan education becomes the later Græco-Roman education

FUSION WITH ROMAN EDUCATION. — After the Roman Conquest (146 B.C.) Greek culture in general was rapidly appropriated by the Roman conquerors, and the education of the cosmopolitan period extended its boundaries without changing its character. In its later phase, when "captive Greece took captive her rude conqueror," Roman education is but one aspect of the cosmopolitan education of Greece.

SUMMARY

The Greeks first worked out the various aspects of personality and strove in their education to produce the development of these in the individual through education. The full attainment of this purpose was secured through a long historical evolution. During the Homeric period Greek ideals were concentrated into the types of the warrior and the councilor, in whom the social aspect of the educational ideal was emphasized. The Spartans continued this extreme emphasis on the social aspect of education and elaborated a scheme in which the entire society was organized for educational ends. In Athens the individual was given more emphasis; the state determined the standards, but the family provided the education. Schools of two types, one for music and literature, the other for gymnastics, were established. After Ionian Greece was brought into close contact with

other peoples, the old conservative educational ideals and practices were replaced by those which gave greater scope to the individual. The sophists were instrumental in introducing the new educational practices. The Greek philosophers, especially Socrates, Plato and Aristotle, attempted to harmonize this conflict between the old institutional education and the new individualistic one. The result was a statement of the problem of education in terms of the present time. While their discussion of educational aims, methods and subject-matter has had profound influence from that time to the present, the suggestions of the Greek theorists as to educational organization had little immediate effect. The individualistic tendency continued until checked on the political side by the Roman Empire and on the moral side by Christianity. But before this time the Greek education and culture had become cosmopolitan in character.

CHRONOLOGICAL SURVEY OF ROMAN AND EARLY CHRISTIAN EDUCATION

POLITICAL EVENTS AND PERSONAGES	POETS, DRAMATISTS, HISTORIANS, ETC.	PHILOSOPHERS, MORALISTS, CHURCH FATHERS, ETC.	WRITINGS POSSESSING EDUCATIONAL SIGNIFICANCE	EDUCATIONAL EVENTS
Traditional founding of city . . . 753 Kings . . 753–509 Decemvirs . . 451 Censors . . . 444 Italian Wars 343–272				Laws of Twelve Tables . . . 451 First mention of Ludus . . . 449
300 B.C. Punic Wars 264–146 Death of Cato . 148 Conquest of Greece . . . 146 Reforms of the Gracchi . 132–121 Social War . 91–89 War of Marius and Sulla . . 89–79 First Triumvirate 59 Cæsar's conquests . 58–52	Andronicus *c.* 284–*c.* 204 Nævius *c.* 264–194 Plautus 254–184 Ennius . 239–169 Cato . 234–148 Terence 189–159 Lucretius 97–53 Varro . 116–27 Cicero . 106–53 Nepos . 99–54 Sallust . 86–34		Latinized *Odyssey* . *c.* 250 Plautus, *Bacchides* 189 Cato, *de Agricultura*, earliest work in Latin prose . *c.* 175–150 Varro, *Disciplinarum libri novem* *c.* 43 Cicero, *de Oratore* . 55	Andronicus reaches Rome . . . 272 Spurius Carvilius founds school . 260 First Latin play at Rome . . 240 Paulus Æmilius brings Greek library to Rome 167 Crates est. first gram. school and teaches Greek . . . 167 Greek rhetoricians expelled . . 161 First private library . . *c.* 150 Censors expel Latin rhetoricians . 92
55 B.C. Conspiracy of Catiline . . . 52 War of Cæsar and Pompey . 49–48 Death of Cæsar . 44 Second Triumvirate . 43 Reign of Augustus 31 B.C.–14 A.D. Tiberius *r.* 14–37 A.D. Nero . . *r.* 54–68 Vespasian *r.* 69–79 Trajan . *r.* 98–117 Hadrian *r.* 117–138 Antonines *r.* 138–180 Public sale of Empire . . . 193 Roman citizenship conferred on all free provincials . . 212 Absolute monarchy of Diocletian 284–305 Constantine *r.* 306–337	Cæsar . 100–44 Virgil . 70–19 Horace . 68–8 Sallust . 86–34 Ovid 43 B.C.–18 A.D. Livy 59 B.C.–18 A.D. Pliny, the Elder 23–79 Quintilian 35 A.D.–95 Tacitus *c.* 55 A.D.–120 Plutarch 46–125 Pliny, the Younger 62–105 Juvenal *c.* 55–140 Suetonius *c.* 75–160	Seneca 54 B.C.–39 A.D. Epictetus fl. *c.* 90 A.D. Marcus Aurelius 121–180 Tertullian *c.* 150–230 Clement of Alexandria *c.* 150–*c.* 215 Cyprian *c.* 200–255 Origen . 185–254 Plotinus 204–270 Porphyry 233–*c.* 301	Horace, *Odes and Satires* 35–8 B.C. Tacitus, *de Oratoribus* 79 A.D. Quintilian, *de Oratoria* 96 Martial, *Epigrams* 90–99 Pliny, *Epistles* . 97–108 Juvenal, *Satires* 100–126 Suetonius, *Lives of Rhetoricians* *c.* 121 Marcus Aurelius, *Meditations* *c.* 161 Tertullian, *Prescription Against Heresies* Clement, *The Educator*, *Stromata*, etc.	First public library . . . 39 Palatine Library founded . . . 28 First Imperial support of schools *c.* 75 A.D. Antoninus Pius subsidizes education in the Provinces 138–161 Caracalla destroys foundation of Alexandrian University . . 217 Severus appoints teachers of mathematics at Rome . . . 218 Constantine extends privileges of teachers 321, 326, 333
313 A.D. Toleration of Christianity . 313 Council of Nicæa 325 Julian the Apostate 361–363 Goths invade Empire . . 376 Final div. of Emp. 395 Exposure of infants prohibited . . 374 Last Roman triumph . . 404 Alaric sacks Rome . . . 410 Battle of Chalons 451 Empire combined with the East 476	Eusebius 265–340 Ausonius *c.* 310–*c.* 393 Symmachus *c.* 345–405 Apollonius Sidonius *c.* 430–480 Martianus Capella fl. *c.* 500	Basil . 331–374 Ambrose 340–397 Gregory of Nyssa *c.* 343–*c.* 394 Jerome . 331–420 Chrysostom 344–404 Augustine 354–430	Jerome, *Letters*, to *Læta*, to *Gaudentius*, etc. Donatus, *Grammar* *c.* 400 Augustine, *Confessions* Capella, *Marriage of Philology and Mercury* Priscian, *Grammar* *c.* 500	Julian licenses teachers and forbids Christians teaching . . 361 Gratian orders payment of teachers' salaries in provincial capitals and establishes schedule of salaries . . . 376 Death of Hypatia . . 415 All teachers to be licensed . . . 425 Syriac commentaries on Aristotle . 498

CHAPTER IV

THE ROMANS. EDUCATION AS TRAINING FOR PRACTICAL LIFE

GENERAL CHARACTER OF ROMAN EDUCATION. — Dominant Institutions and the Genius of the People. — The genius of the Romans was a wholly practical one. The great merit of the Romans was that they accomplished concrete results by adapting means to ends. The Roman was not one who found satisfaction in the attainment for its own sake to a subjective state, — a state of happiness, a life of contemplation, of æsthetic enjoyment, of intellectual activity. More characteristic of his genius was the striving for some external object; the accomplishment of some concrete purpose lying outside of his own thought life. He strove for some form of excellence or achievement of material value to his fellows, and similarly striven for by them.

The practical genius of the Romans contrasted with the idealistic character of the Greeks

The Greeks defined those things that have been deemed by all ages the most worthy objects of the present life. Among these are æsthetic enjoyment, intellectual power, moral personality, political freedom, and that social excellence, called culture. The work of the Romans was the practical one of furnishing the means, the institutions, for realizing these ideals. Hence they have ever been looked upon as a utilitarian people.

Roman Standard of Judgment. — Contrasted with the Greek tendency to measure all things by the standard of reasonableness, or harmony, or proportion, we have the Roman tendency to judge ever by the usefulness or the effectiveness of a thing. For this reason the Romans tended to look upon the Greeks as a visionary, unpractical people, while the Greeks considered

Usefulness and effectiveness were Roman standards

the Romans somewhat as sordid barbarians, with force of character and military strength, but with no appreciation of the higher aspects of life.

Romans formulated laws, institutions, and ideals of practical virtues

Contributions of Rome to Civilization. — The permanent contributions of the Romans to civilization were, then, of two great types. (1) Through their development and organization of law they furnished that institutional organization of life that serves to a large extent as the basis of modern social life. (2) Through their influence on the practical virtues, chiefly by means of the law and the state, but also later by the adaptation of the Stoic philosophy and the propagation of the Christian religion, they contributed to the exaltation of the moral conception of life. Thus it follows that they have exerted much less of permanent influence on education, in the narrower sense, than have the Greeks. No science, no speculative philosophy, no contribution to the abstract intellectual or æsthetic elements in education followed from their conception of life and of religion. Their whole influence was the practical one of adaptation and organization.

The five rights of the Roman citizen

Roman Ideal of Education shown in their Conception of Rights and Duties. — The rights of the Roman citizen were five in number and all clearly defined by law. These were: the right of the father over his children (*patria potestas*); the right of the husband over his wife (*manus*); the right of the master over his slaves (*potestas dominica*); the right of one freeman over another which the law gave him through contract or through forfeiture (*manus capere*); and the right over property (*dominium*). The freeman received these rights by birth; but after the earlier centuries they could also be acquired either by naturalization or adoption or by enfranchisement. The duties of a Roman citizen corresponded to and grew out of his rights.

The duties correlative to these rights

Now all of the duties of the father and of the citizen necessitated a definite training through the years of boyhood in order that the appropriate abilities or virtues might be developed. Only to a slight extent was this training furnished by the school

even in the later periods. Yet a definite education of positive character and great value was furnished by the home.

Elements in this Educational Ideal. — In the performance of these duties certain definite virtues or moral characteristics were demanded. These were all of an extremely practical character and were formulated from an actual living type. Manhood, as exemplified in living men, in well-known historical personages, or in mythical heroes, furnished the standards which the youth was expected to approximate.

Virtues of piety, modesty, manliness

Foremost of these virtues was that of piety or obedience. Piety comprised both the religious idea of reverence and the notion of filial regard for parental control. Together with modesty it approximated the Greek idea of reverence, the balance or harmony of conduct. Manliness, or firmness, or what we term character (*constantia*) was a virtue valued by the Romans and exemplified in their lives more than by any other ancient people.

Courage, fortitude, prudence, honesty, earnestness

As a result of this, the other virtue of bravery or courage had much more of the idea of fortitude than did the corresponding Greek ideal. Since "Rome must never conclude a peace save as victor;" so no Roman must ever voluntarily quit a strife before having vanquished. Here was none of the fear of excess that characterized the Greek. To these virtues were added two more homely ones, characteristic of a practical people only and growing out of a life of industrial activity, where actual participation in the toil of life was considered a duty and not a disgrace. These were prudence, especially in the management of one's business affairs, and honesty or fair dealing in all economic relations. Earnestness (*gravitas*), sobriety in conduct, or dignity of bearing was substituted for the Greek idea of gracefulness. Viewed from the standpoint of the individual, all these virtues were summed up in the ideal of duty; from the standpoint of the state, in the ideal of justice. Though at the beginning the Greek ideal of virtue was largely that of devotion to the state, the ideal of physical bravery soon

Duty the comprehensive virtue

ceased to be its chief element; their moral ideal was ever formulated in some form of virtue in terms of personal satisfaction. In time their ideal came to be formulated in terms of happiness or in terms of intellectual activity. The Roman ideal, on the other hand, ever continued to keep as its basal element the idea of bravery or of virtue in the sense of devotion to the state. Virtue, then, in terms of duty, as stated in principles or in law, remained the Roman conception of life. Life in terms of personal virtue is the idealistic formulation of life; life in terms of duty is the moral conception of life as formulated by the practical man.

The home the chief instrument in the formation of character

The Practical Education. — *The Home as the Center of Education.* — In a conception of education that has to do for the



LIFE OF A ROMAN FROM INFANCY TO MANHOOD
From a Sarcophagus. (School life in the center)

most part with the formation of moral character, schools can hold but a minor place as an educational means. And so it was at Rome. Their place was taken by other institutions, chiefly the home. The power of the father exalted his functions and made the family the social unit, even in many legal respects. The moral importance of the home, as well as its legal and social importance, was emphasized. The father was responsible for the moral and physical training of the boy. The mother held a position far superior to the place of women in Greece. Within the home she was dignified with a position of independence and responsibility. She was more the companion of her husband socially and more his partner in his management of the home than in Greece. She herself reared and cared for her own children, instead of turning them over to a nurse. The boy,

Influence of the mother

when somewhat grown up, became the companion of his father instead of being turned over to a slave or pedagogue, as with the Greeks.

Biography as a Means. — The influence of the home was supplemented by that of concrete types of Roman manhood. No other people have so effectively used the personages of importance in their own history in forming the character of the youth of each generation. Their earliest literature consisted of the legends and heroic tales of the early Romans. Their songs were but the glorification of these same deeds. Something similar to this occurred in Greece in the earlier period. The Grecian heroes, however, were demigods or were constantly protected by the interposition of the gods, and hence were beyond imitation by the wiser men of later generations. The Roman heroes, on the other hand, possessed virtues and performed deeds such as could be imitated by every Roman boy.

The use of biography embodied in early Roman legends, hymns and literature

Imitation as the Method. — From what has been said it follows that the most important characteristic of the method of Roman education was imitation. While the Greeks emphasized the assimilative character of the soul and hence sought educational results by creating an environment of cultural value through public works of art, religious ceremonials, dramatic presentations, and a free and open life in public places, the Romans emphasized the imitative character of the soul and hence sought educational results by placing before the youth a concrete character to be followed. Though the pedagogue and the inspirer performed a somewhat similar service with the Greeks, yet the function of these was rather to control and direct; this was true at least of the pedagogue, who, because a slave, was not to be imitated. The Roman youth was to become pious, grave, reverential, courageous, manly, prudent, honest, by the direct imitation of his father and of old Romans of so heroic a character as to be embodied in their legends and histories, yet withal men who had actually walked the streets and had gathered in the Forum.

The Romans emphasized the importance of immediate associates; the Greeks, of the general environment

Training, or the doing side, more important than instruction

In one other important respect does the method of Roman education differ from that of the Greeks. With both peoples education was primarily a process of doing as opposed to one of instruction. Certain activities were undertaken to form certain approved habits. Subsequent to this earlier phase of their educational development, the Greeks added a process of instruction to make such habits rational; this the Romans never developed as a component part of their education. Though in later periods they adopted the Greek school, it was not a native process; it neither formed an essential part of their conception of education nor became of general use and significance until well on in the imperial period.

The activities used in education were a direct practical training for the activities of adult life

Then, too, there was a radical difference between the "doing" process of the Greeks and that of the Romans. The Romans rejected as marks of effeminacy, gymnastic training, dancing, music, literature; in brief, all such educational means as the Greeks employed. Through games, it is true, the Roman boy gained in physical development to a certain extent; but not through any organized and systematized use of them. There were no gymnasia. Physical development was secured on the martial fields and in the camp, and through actual exercise with weapons, supplemented by the actual training of real life on the farm. In every respect the training of boys was either through an apprenticeship to the soldier, the farmer, the statesman, or by actual participation in those activities that were later required of them as citizens. Thus in method we see the characteristic of the practical education, — the doing of the actual thing to be done. They had no appreciation whatever of training and instruction in certain selected activities that possess cultural value because they plant in the very nature of the child germs of a much fuller development in manhood.

PERIODS OF ROMAN EDUCATION. — Roman education falls into two great time-divisions: one in which its ideals and practices were purely Roman, the other in which Greek influence was prominent and education became of a composite

or cosmopolitan character. Owing to the much more stable character of the Romans, this change was more gradual than the corresponding one in Greece and affected the masses of the people much less radically.

The introduction of Greek educational ideas and practices formed the great division line in Roman education

The dominance of Greek educational practices and institutions did not become complete until near the fall of the Republic (31 B.C.). In 55 B.C. Cicero (106–43 B.C.) published his work *On Oratory*, which was the first Roman exposition of the Greek educational ideal. As Cicero was the first Roman to rise to power through oratory, that is by means of the Greek education, this date may well be taken as the dividing point between the two eras. Each of these general divisions falls into two sub-periods.

Early Roman education largely moral and social

PERIOD OF EARLY ROMAN EDUCATION (753 to about 250 B.C.).—During this period the features previously given concerning Roman education dominated completely. The rearing of the child was in the hands of the mother, the training of the boy in the hands of the father. The home was practically the only school, though the boy early became the companion of his father in business, public and private, on the street, in the forum, and in the camp. Education was largely moral; discipline was severe; ideals were rigorous. The slight literary element entering into their education was that connected with the religious and choral service, and with the Laws of the Twelve Tables. These fundamental laws of the republic, adopted 451 and 450 B.C., remained the basis of Roman society for almost a thousand years. In the function they performed, these laws resembled those of Lycurgus; though they dealt not with education, but with the power of the father, property rights, religious services, political and military obligations, and similar subjects. In the broadest sense, they constituted the framework of Roman society and hence embodied the ideals of life that gave to education its concrete ends. The relation of the laws to education in the narrower sense consisted, first, in the definite embodiment of the power of the father over the child

Importance of the Laws of the Twelve Tables

Constituted valuable intellectual training of a practical kind

and his duty concerning his training; second, in the custom followed for many generations of requiring every boy to learn the tables as they were posted in the Forum and to become perfectly familiar with their meaning. This in itself offered no insignificant intellectual training. Its practical character, however, made such training very different from that which the Greek boy acquired from a similar familiarity with Homer.

The school was not essential; was a "diversion"

During the latter part of this period, elementary schools furnished the rudiments of the arts of reading, writing, and arithmetic. Such elementary schools were known as *ludi* (*ludus*, — *play*, *sport*, or *a turning aside*),[1] a name which indicates that their function was only supplementary and that they were not essential to the real education of the Roman youth. These schools were of a purely private character, and were held in some home or in an unfrequented nook or porch of a temple or other public building. Even in the matter of training in the arts of reading and calculating, these schools evidently represented a "diversion" from the ordinary custom of training in the home.

Gradual introduction of Greek ideas

PERIOD OF INTRODUCTION OF GREEK SCHOOLS. — The time from the middle of the third century to the middle of the first century constituted a period of transition, during which Greek customs and ideas were introduced. This period coincided substantially with the period of national expansion throughout the peninsula of Italy. Previous to this time Rome was only a local community; after this period Rome became an empire which had, necessarily, to acquire a cosmopolitan culture. By the time of the opening of this transitional period, the elementary schools (schools of the *literators*, they were also called) were quite numerous and they soon came to be known as schools of the *grammatists* as well. This of itself indicates that a transition was going on. About the opening of this period Livius Andronicus (284–204 B.C.) translated the *Odyssey* into Latin.

with the political expansion of Rome

The elementary school was a Roman product

[1] A somewhat similar idea is contained in the Greek word for school, — *scholé*, leisure.

The book was soon introduced into these schools, giving them a more literary content than they had hitherto possessed. The translation of other Greek works followed rapdily; and Latin literature took its rise at the same time. This growth of literary material soon produced a radical advance in education, namely, the introduction of the Greek grammar school, distinct from the ludus in form and superior to it. The exact time of introduction is difficult to determine. The Greek Andronicus, previously mentioned, was (in 272 B.C.) brought as a slave to Rome from his home in southern Italy, and after securing his freedom is said to have become a teacher of the Greek and Latin languages. Other teachers, of Greek origin, followed; though it is probable that these early teachers did little more than give some slight knowledge of the language and literature, chiefly in translation, to a chosen few. Certain it is that by the time of the decree of expulsion of philosophers and rhetoricians issued by the Senate in 161 B.C. a higher type of Greek teachers had appeared. Thus the Greek grammatical and rhetorical schools were both established.

Introduction of the literary element into these schools

The Greek grammar or literary schools

The Greek rhetorical schools

The subsequent introduction of the Latin rhetorical school not only supplemented the work of the Greek rhetorical schools, but gave a much wider scope to this formal or rhetorical education, since it affected a much larger portion of the population. In 92 B.C. the censors issued the following decree: —

Latin grammar and rhetorical schools

Decree of the Senate 92 B.C. expelling teachers of grammar

"It is reported to us that certain persons have instituted a new kind of discipline; that our youth resort to their schools; that they have assumed the title of Latin Rhetoricians; and that young men waste their time there for whole days together. Our ancestors have ordained what instruction it is fitting their children should receive, and what schools they should attend. These novelties, contrary to the customs and instructions of our ancestors, we neither approve, nor do they appear to us good. Wherefore it appears to be our duty that we should notify our judgment both to those who keep such schools, and those who are in the practice of frequenting them, that they meet our disapprobation."

That the reception given to these schools had not been a hearty one and that their influence was not general until the

Support of literary schools not general at first

imperial period, is evidenced by the fact that the instances of the few notable men who underwent a rhetorical training and profited practically by it, such as Cicero, Pompey, Cæsar, Mark Antony, and even Augustus, are cited by Suetonius as unusual. He states that by slow degrees, rhetoric made itself manifest as a useful and honorable study, and that many persons devoted themselves to it, both as a means of defense of personal rights and as a means of acquiring reputation. The custom of sending the youth to Greece to receive this rhetorical training, as in the case of Cicero, became established during this period.

The general appropriation of Greek learning and education

THIRD OR IMPERIAL PERIOD. THE HELLENIZED ROMAN EDUCATION. — During this period, including about a half century B.C. and two centuries A.D., the Romans attempted to introduce the new wine of Greek culture and intellectual activity and individualism into the old bottles of Roman institutional life. Never before, perhaps never at any time, has one people attempted to appropriate so thoroughly the intellectual life of another. The native vigor of the Roman character made it possible to do this without a complete surrender of their own characteristics, and consequently rendered some modification of the Greek intellectual and educational characteristics necessary. The Romans never acquired the intellectuality, the versatility, or the originality of the Greeks. At best, they perfected the form of literature; at worst, their education became one of pure form possessing little real value. This was true in the later centuries of the empire and is revealed in their intellectual life and literature.

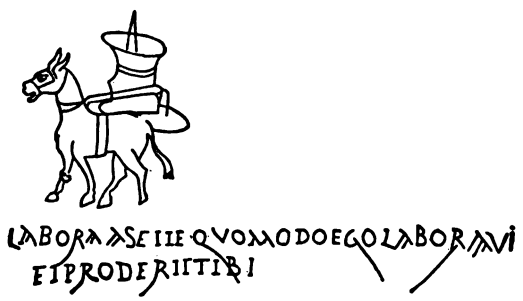
The general means by which the Romans appropriated the Greek culture was by the adoption of the Greek educational institutions.

Work of the elementary school more literary in character

The School of the Literator (or Ludimagister). — Even during this period this elementary school never attempted to give more than the merest rudiments of the arts of reading, writing, and calculation. Since reading was taken up in the grammatical school as a fine art, it is probable that, when the boy had mas-



A ROMAN SCHOOL. FROM A MURAL DECORATION AT POMPEII



A ROMAN BOY'S OPINION OF THE GRAMMAR SCHOOL AS "A GRIND"

A graffito from the walls of the Palace of the Cæsars. (The legend reads: — "Labor on, little ass, just as I have labored, and may it be of profit to you.")



tered the art of reading ordinary prose, he was immediately transferred to the higher school. By the time of Cicero, the Laws of the Twelve Tables disappeared from the elementary schools, and their place was taken by portions of the Latinized *Odyssey* or by versified moral maxims.

This phase of education, being non-Grecian, never received any general attention, nor such teachers — often mere slaves — any public esteem.

Definite organization of the grammar schools

The School of the Grammaticus now became a definitely formulated educational institution with an elaborate method, a fixed curriculum, and public support. Such schools were of two types; one for the teaching of the Greek language, the other for the Latin. Quintilian recommended the learning of the Greek language first. The Latin Grammar Schools were to be found in every city in the empire, and they remained as one of the most persistent institutions of the old pagan civilization until the overthrow of Roman culture by the barbarians. The master was called a *literatus* or a *grammaticus*. The major part of the work of these schools was, as the name indicates, the study of grammar. But grammar included more than the term signifies with us, for it related to the study of both the linguistic elements and the literary products of the language. And literature might be — and certainly was in the conception of Quintilian — a broader concept than with us. It included the work of the historians and of the scientific writers as well as of the poets.

Literature, history and science included under grammar

Other practical subjects introduced into the grammar school

For the Romans, the world of learning had become identical in outline with that of the Greeks. It is certain that to some extent mathematics, music, and rudimentary dialectics were introduced into the grammar schools. In all of the studies mentioned, the practical character of Roman life was never lost sight of; their use never became identical with that in the Greek schools. Gymnastics and dancing were never introduced; the former was taught only in connection with military training, and the latter, if ever, in the home.

Training in declamation

Through the training in declamation the work of the grammatical school merged into that of the rhetorical school. But in its main purpose the former was different from the latter: in the grammatical school the object was to give a mastery of the language, a correctness of expression in reading, in writing, and in speaking, and to do this through a familiarity with the best Greek and Latin authors. Thus the literary education developed by the Greeks as the highest form of the liberal education was further developed along the definite line of a practical education for the life of affairs.

Preparation for duties of orator, lawyer and public official

The School of the Rhetor was the culmination of this practical literary education. Similar to the schools of the sophists, or of the later rhetoricians of Greece, these schools furnished a direct preparation for the life of affairs at Rome by a thorough training in oratory. Consequently they were patronized only by those who expected to devote their lives to a public career. During the later imperial period such a life became the distinctive characteristic of the members of the senatorial class.

Wide scope of the function of the orator

To the Roman, the power of the orator represented the various ways in which an educated man in modern times can make his knowledge effective in the service of his fellow-men. It is not so much that the Roman conception of education is narrow, but rather that the social organization of the times gave but few facilities for bringing intellect to bear upon practical affairs. The great warriors of the times were also great orators; indeed, they were often great leaders because they were great orators. The orator was greater than the philosopher, because the orator included the philosopher. The functions performed in modern society by the pulpit, the press, the rostrum, the bar, the legislative debate, even by the university, were in those times all performed by the orator. Hence at its best the Roman ideal was a great one. It is only when we come to consider its ordinary realization that it appears formal, artificial, and restricted.

Attended b boy from fifteen year of age

The rhetorical training of the youth began at about the fifteenth year of age, the time the boy laid aside the *toga prætexta* and assumed the dress of manhood. Then, if destined for a public career, he entered the rhetorical school to supplement the thorough linguistic training he had received in the grammar schools. The length of time spent on this stage of education would depend upon his interests, his abilities, and the schools he attended.

Routine work of these schoc

The routine of the school consisted for the most part in declamation and debate. At its best, however, the rhetorical school included much more than this exercise in debate. According to Quintilian, the grammar school should thoroughly acquaint the boy with all literature; and the rhetorical school, in a similar manner, should give him a knowledge of music, of arithmetic, of geometry, of astronomy, and of philosophy. Quintilian enumerates the qualifications of the orator as follows: a knowledge of things (gained through a mastery of literature); a good vocabulary and an ability to make careful choice of words; a knowledge of human emotions and the power of arousing them; a gracefulness and urbanity of manners; a knowledge of history and of law; a good delivery; a good memory. Beyond this he holds, also, that no one can be a good orator unless he is first a good man.

Libraries taken as spoils from the Greeks

Libraries and Universities. — In a most literal sense the higher education of Rome was an imitation of Greece. Its earlier libraries were taken as spoils from the Greeks, just as the earliest of its higher teachers were slaves or refugees from Greece as a result of the Roman conquest. In 167 B.C. the conqueror Paulus Æmilius brought over the first of these libraries; Sulla and later conquerors brought others. Augustus founded two public libraries. During the golden age of Latin literature, books multiplied, many libraries were founded, and all the appurtenances of an age of culture abounded. With the library founded by Vespasian (69–79 A.D.) in the Temple of Peace, erected after the fire of Nero, the university of Rome had its origin.

The unive sity at Rom founded by Vespasian

Under Hadrian (117–138 A.D.) and the later emperors interested in literature and education, this was developed into a definite institution termed the Athenæum. More attention was given to law and medicine than to philosophy. The liberal arts, especially grammar and rhetoric, were fully represented both in the Latin and in the Greek languages. Later, teachers of architecture, mathematics, and mechanics were appointed by the emperors, — at least by Alexander Severus. These lines of instruction represented the entire work of the university. There was nothing in the way of investigation or of creative speculation. All instruction consisted in formal discipline such as was given in the lower schools or in the mere exposition of the subject as organized by the Greeks.

University studies

While grammar and rhetorical schools were distributed over the provinces, the same cannot be said of the universities. Aside from those in the Greek centers of culture, all of which were in the East except Massilia (the modern Marseilles), there were no other universities under the Roman régime. The establishment of libraries in provincial towns was an occasional occurrence.

Universities only in Greek centers

Support of Schools by the Empire. — Although the number of schools increased during imperial times to such an extent that scarcely one provincial town was without its grammar school, yet it can hardly be said that a system of schools existed. There was no governmental oversight of these schools; there was no compulsion in their establishment. But owing to the fact that the government, both imperial and municipal, came to the support of these schools, many of them lost their private character and in that sense may be said to have constituted a system.

Grammatical and rhetorical schools in almost every town

Several of the early emperors followed the example of Vespasian in building up the Athenæum. But Antoninus Pius (138–161 A.D.) was the first to systematize the encouragement to education and to extend it to lower schools. He conferred upon a limited number of grammarians, rhetoricians, and philosophers in provincial capitals and smaller cities many of the

Imperial and municipal support

Imperial subsidy made general

privileges of the senatorial class. These privileges included exemption from taxation and other governmental burdens. Constantine (r. 306–337 A.D.) extended these privileges and made them the basis of the privileges of the Christian clergy. In many cases, Gratian (367–383 A.D.) duplicated from the imperial treasury the amount contributed from municipal treasuries for the support of schools. In 376 the same emperor established a salary schedule for teachers throughout the empire. The apostate Julian (361–363) required the certification of teachers as a means of eliminating Christian teachers from pagan schools. In 425 Theodosius and Valentinian made the imperial government the sole authority in the establishment of schools and declared any attempt to found a school by a private party to be a penal offense. This is the nearest approach made to an imperial system of schools. But by this time educational and intellectual interests had declined, and schools had ceased to have the influence and importance they formerly possessed. Yet these steps in the building up of the system parallel quite closely those taken by the few modern governments, such as Germany and France, that have built up a state system of schools.

Privileges of senators extended to teachers

Certification of teachers by the empire

Educational Writers during the Imperial Period. — The literature on Roman education is much less abundant and less important than that on Greek. Seneca is the one writer whose point of view would be likely to approximate most nearly that of the Greeks. Although he considers education to be in close contact with life, he has little to suggest except stray observations, full of truth and still often quoted, but offering no underlying principles of education. Among his famous maxims are these: "We should learn for life not for school;" "We best learn by teaching;" "The result is gained sooner by example than by precept."

Educational ideas of Seneca

The remainder of the literature falls into two general classes. The first includes incidental references to educational customs and institutions. Our information concerning the education of the Romans is drawn, for the most part, from brief reference

Educational references in Latin literature

scattered throughout Latin literature, beginning with Plautus, and including among the writers of the first two centuries of the Christian era, Horace, Martial, Juvenal, Seneca, Suetonius, Tacitus, Pliny the Younger, and Marcus Aurelius. In the other class are included the theoretical or scientific discussions of the problem of education as it appealed to the Romans. The most important of these are the *de Oratore* of Cicero, the *de Oratoribus* of Tacitus, and the *de Institutione Oratoria* of Quintilian. The latter is really the first scientific exposition of the whole problem of education, including purpose, method, curriculum, and organization, ever written. It consists of the most matter-of-fact discussions of all problems relating to the school and is entirely typical of a practical people.

Works of Cicero, Tacitus and Quintilian on oratory (*i.e.* on education)

Quintilian (35–95 A.D.) was not only the most prominent writer on education, but the most successful of Roman teachers. He was among the rhetors first subsidized by Vespasian and was given the highest marks of esteem by his contemporaries. Though he acquired great wealth through his teaching, he did not claim that he possessed great originality, but rather that in his practices, as later in his writings, he summed up the best results of the work of his predecessors.[1]

Quintilian the most prominent Roman educator

FOURTH PERIOD. DECLINE OF ROMAN EDUCATION. — In form, this Grecianized Roman education continued to flourish and to dominate until the extinction of the Roman imperial power in the West during the fifth and sixth centuries. In spirit, the decline began with the gradual loss of liberty by the Roman citizens shortly after the opening of the Christian era.

Decline in the Roman spirit, power and social morality

The decadence in literary quality and in the intrinsic merit of this grammatical and rhetorical training did not come until the later part of the third or the early period of the fourth century. Long before that time the significance of this education had departed. As in other aspects of Roman society, the in-

Real decline in the third and fourth centuries

[1] For selections of those portions of Roman literature that relate to education in the school, see Monroe's *Source Book of the History of Education for the Greek and Roman Period*, Pt. II, Ch. VII.

stitutional form persisted long after selfishness had destroyed the purpose, after corruption had destroyed the spirit, and artificiality had taken from it all real influence upon the lives of the people and all real social significance. The education of the Christian Church was gradually replacing the education elaborated by the Roman from the material borrowed by them from the Greeks. The great merit of the Roman adaptation had been its close relation to the practical needs of political and institutional life. This was now lost. When the practical bearing of a practical education is lost, there is nothing left to commend it.

A class education only

The limitation which most characterizes the decline is the fact that this education was for the upper class only. This education is to be judged, not as the practical training of a whole people, but as an adornment to a hollow, superficial, and usually corrupt society; not as the expression of the highest aims in life, but as a dilettante interest, and more often still, as an affectation; not as a stage of development possible for an entire people, or for individuals of any rank, but as an attainment or even a mere badge of distinction of a favored class. As the old political power and opportunity for political activity disappeared, as the municipal government became mere machinery for collecting taxes, as the army became filled with barbarians, the upper class, now more numerous than ever, turned to the one remaining feature of early imperial Rome, — its culture.

Formal excellence of this class education

These centuries were not without many minor writers of merit, and able systematizers, especially grammarians. This is especially true of the fourth century. With the return to paganism under the apostate Emperor Julian (361–363) — a revival in itself largely inspired in the schools — there occurred a revival of the classical culture and of schools, which is spoken of by historians as a distinct renaissance of learning. Donatus (about 400) in the West and Priscian (about 500) in the East perfected the grammatical analysis of the language in text-books that were

Progress in grammatical studies

to remain the basis of linguistic study and hence of education until the sixteenth century. Grammarians and rhetoricians had never been held in such high esteem. Rhetoricians had followed the conquering Roman armies into Gaul, as do traders a modern conquest, and had gained a hold upon the Romanized Celtic civilization that rendered possible the survival of this culture in that province after it had disappeared elsewhere.

The wandering teachers described

In addition to the rhetoricians and grammarians located in the cities, wandering sophists or teachers traveled from place to place. Speaking of these, Professor Dill says:—

> "If he was a man of reputation in his art, people rushed to hear him declaim, as they will do in our times to hear a great singer, or actor, or popular preacher. Provincial governors, on a progress through a district, would relieve the tedium of official duties by commanding a display of word-fence or declamation by such a master as Proaeresius, reward him with the most ecstatic applause and conduct him home in state after the performance. . . . This power of using words for mere pleasurable effect, on the most trivial or the most extravagantly absurd themes, was for many ages, in both West and East, esteemed the highest proof of talent and cultivation."

Social futility of this education

Such being the ideal, it is not to be wondered that the work of the schools was of the most artificial and ineffectual character. The study of philosophy had disappeared altogether from the schools and found but few devotees among the cultured, and here, too, merely for a show of learning. Except in Rome, even law attracted but slight attention in these Western schools.

Persistence of these schools

Such ideals of culture stopped all progress. If the Hellenized Roman education ever possessed any of the liberalizing tendencies that it did with the Greeks, it had long since lost all of them. The practical merits of Roman education had disappeared quite as completely. Down to the close of the sixth century these schools existed throughout the European provinces and gave to the early Church in that region a formal training in the culture of pagan society.

In portions of Italy some of these schools — modified by the

ecclesiastical influence, it is true — survived the dark ages. In Gaul, where the Goths accepted Roman culture, they persisted well into the seventh century. But with the coming of the Franks and the spread of monasticism the few surviving ones were replaced by the schools of the monastic orders.

Replaced finally by monastic schools

SUMMARY

The Roman contribution to civilization was the practical one of institutions as means for realizing ideals or social purposes. Consequently they contributed to education much less of permanent value than did the Greeks. On the other hand, they furnish the best illustration of the practical education. Their educational ideals during the earlier periods were wholly moral ones, that is, relating to practical conduct. The home was the chief educational institution, imitation the chief method, biography and the practical process of life the chief educative means. Shortly before the opening of the imperial period and of the Christian era, Greek ideals came to dominate and Greek educational processes to be adopted. This especially affected higher education. Consequently, for the remainder of Roman history, a modified system, including both Greek and Roman elements, prevailed. The Greek literary and culture elements appealed chiefly to the higher classes and left untouched the great masses of the people. For these higher classes, an elaborate system of grammar and rhetorical schools, and even numerous libraries and some universities, were developed. The great achievements of Latin literature were products of the very earliest portion of this period, when the Roman genius had lost none of its virility, and the Greek education had been adopted only to a slight extent. In a comparatively short time, this imitation of the Greeks became wholly artificial, education became very formal and unreal. Roman life tended at the same time to become very corrupt, government became despotic, the early individualism and virile character of the Romans was lost, and the dominant education ceased to have any vital connection with the life of the times. Consequently a new education, that furnished by the early Christian Church, gradually replaced the old. Roman education lost its social importance, though its structure continued to persist even after the barbarians had seized control of the empire in the West.

POLITICAL EVENTS	WRITERS, SCHOOLMEN, ETC.	CHURCHMEN AND ECCLESIASTICAL EVENTS	EDUCATIONAL WRITINGS	EDUCATIONAL EVENTS
"Fall" of Rome . . . 476 Odoacer . . . 476 Theodoric . . 493 Tothila . 541–542 Justinian . . 527 The empire reunited . . 565 Arab conquest of Spain . . 714 Karl Martel defeats Saracens . . 732 Carolingian line 752 End of Lombard kingdom . . 774 Charlemagne 772–814	Boethius *c.* 480–524 Cassiodorus *c.* 480–575 Gregory of Tours *c.* 538–594 Isidore of Seville *c.* 570–636 Venerable Bede . . 673–735 Alcuin . . 735–804 Paulus Diaconus 725–797	St. Benedict 480–543 Franks converted . . 496 Gregory I *c.* 540–604 Mohammed *b.* 572 Columban . 540–615 Hegira of Mohammed . 622 Conference at Whitby . . 664 Boniface converts the Germans 721–754 Last council recognized by Eastern and Western churches . . 787 Leo III . 795–817	Benedict's *Rules* Boethius, *Consolations, Translations of Aristotle.* Cassiodorus, *Institutes of Sacred Literature* Gregory of Tours, *Chron.* Isidore, *Etymologies* Bede, *Chron.* Alcuin, *On Seven Liberal Arts*, etc.	Monte Cassino founded . . 529 Cassiodorus founds monastery . 540 Christian era first used for dating . . . 526 St. Gall founded 614 Reichenau f. . 724 Fulda founded . 744 Alcuin called to Frankland . 781 Karl's *Capitularies* on ed. 787 *et seq.* Alcuin, Abbot of Tours . 794–804
800 A.D.				
Carolingian Empire founded . . 800 Charles the Bald . 840–877 Treaty Verdun 843 Alfred . 871–901 Henry of Saxony 919–936 Otho . . 936–973 Holy Roman Empire founded 962 Otho III . 996–1002 Caliphate of Cordova 929–1031 Capetian line . 987 Norman conq. 1066 Canossa . . 1077	Einhard . 770–840 Rabanus Maurus . 776–856 John Scotus 810–875 Walafred Strabo . 809–849 Avicenna 980–1037 Anselm . 1033–1109 Roscellinus *c.* 1050–1121	Conversion of Saxons . . . 804 Separation of Eastern and Western churches . . 822 Clugny founded 910 First Crusade 1095 Sylvester II (Gerbert) 999–1003 Cistercians founded . 1098 Knights of St. John founded . 1099	Rabanus Maurus, *Education of the Clergy* Walafred Strabo, *Biography* Anselm and Roscellinus begin scholastic controversy	Division of Monastic Schools into interns and externs . . 817 Hirschau founded . . 830 Oath of Strassburg, earliest form of German and French language . . 841 Salerno . fl. *c.* 1050 Anselm, Abbot of Canterbury 1093–1109
1100 A.D.	William of Champeaux *d.* 1121			
Consular government in Italian cities . fl. 1100 Arnold of Brescia 1100–1155 Frederick Barbarossa 1152–1190 Henry II of England 1154–84 Philip II of France 1180–1223 Treaty of Constance 1183 Fall of Constantinople to Crusaders 1204 Frederick II 1208–1250 Magna Charta 1215 End of Hohenstaufen line 1254 Louis IX of France 1226–70 Latin Empire in East falls . 1261 Hapsburg line begins . . 1273 Model Parliament 1295	Bernard . *d.* 1153 Abelard 1079–1142 Hugo St. Victor *c.* 1097–1142 Richard St. Victor *d.* 1173 John of Salisbury . 1110–1180 Peter of Blois 1135–1204 Albertus Magnus 1193–1280 Walter Map *c.* 1140–1210 Averroës 1126–1198 Alex. Hales *d.* 1245 Grosseteste 1175–1253 Bonaventura 1221–1274 Th. Aquinas 1221–74 Walter von der Vogelweide fl. 1230 Alexander de Villedieu . . *d.* 1240 Vincent de Beauvais *d.* 1264 Roger Bacon 1214–1294 Raymond Lull 1235–1315	Knights Templars founded . 1119 Second Crusade 1147 Murder of à Becket . 1170 Innocent III 1198–1216 Peter the Venerable *d.* 1156 Albigensian Crusade . 1208 Franciscans founded . 1210 Dominicans founded . 1215 Crusade of St. Louis . 1270 Christians expelled from Palestine . 1291 Boniface 1294–1303	Abelard, *Sic et Non*, etc. Hugo of St. Victor, *On Instruction* John of Salisbury, *Metalogicus* Walter Map, *Latin Students' Songs* Alexander de Villedieu, *Grammar*	Irnerius at Bologna . 1113 Trans. from Arabic under Raymond of Toledo 1130–1150 U. of Paris . *c.* 1160 Aristotle's *Physics* proscribed at Paris . . 1210 *Metaphysics* proscribed . 1215 Frederick II sends trans. of Aris. to Bol. and Paris 1220 Niebelungenlied *c.* 1220 Epic poetry in Ger. and France *c.* 1200–1250 Dominicans at Paris . . 1217 Franciscans at Paris . . 1230 U. of Padua . 1228 U. of Naples . 1224 U. of Salamanca 1243 U. Col. Oxford 1249 Peterhouse, Cambridge 1284 Aristotle again stud. at Paris . 1255
1300 A.D.				

CHAPTER V

MIDDLE AGES: EDUCATION AS DISCIPLINE

SIGNIFICANCE OF MEDIAEVAL EDUCATION. — By successive decrees (312, 313, 321, etc.) of the Emperor Constantine, Christianity became the official religion of the Roman empire. So far as formal acceptance was concerned, it soon came to prevail throughout the empire. After the surrender of the imperial office in the West (476) the political control was indirect until the reëstablishment of the imperial office by Charles the Great (800). Meanwhile, to all practical purposes, the institutional control of the people had passed to the Church. But not even yet could it be said that the masses of the people were Christianized in spirit and in conduct. The political conversion of the Roman populace had left their ideas and their conduct but slightly modified. True the gladiatorial shows, the exposure of infants, and similar pagan customs were suppressed in time; but at heart the masses of the people experienced little change. The conversion of the barbarians during the sixth and seventh centuries was also largely of a political character.

Political character of Christianization of Roman and of Teuton

Both with the decadent Roman and with the barbarous Goth and Vandal, the great need was a schooling in conduct and spirit through the substitution of new ideals of life and new motives of conduct. Neither the education nor the religion of the Greeks and of the Romans gave this. But under the dominance of Christianity education received a wholly new character. Instruction in doctrine and training in Church ceremonials were substituted for the intellectual element; a rigid discipline in conduct, for the physical and rhetorical training.

Great need of these political converts was a moral education

Dominant moral character of early Christian education

Education became a rigid régime in preparation for some future state. From the point of view of this discipline, all that was an outgrowth of natural interests was to be suppressed; everything connected with this world and its activities was evil; all consideration for the development of personality and the cultivation of æsthetic taste or intellectual activity was a gross sin. From the sixth to the thirteenth century, the intellectual element was practically eliminated from education. Even when reintroduced, it was still under the dominance of the disciplinary conception. The subordinate types of education which developed during the long period of the Middle Ages, before the classical Renaissance of the fifteenth century, are but various expressions of this disciplinary conception. Through a rigid training, physical, intellectual, moral, the individual was to be prepared for some state, remote from the present both in time and in character. Under the dominance of the Church and of monasticism this future state became the future life. For the entire period there prevailed a new conception of education, antagonistic both to the liberal, individualizing education of the Greeks and to the practical, socializing education of the Romans.

Disciplinary character of the intellectual education when introduced

§ 1. EARLY CHRISTIAN EDUCATION

The educational as well as the social ideal found in the moral rather than in the intellectual nature of man

THE NEW EDUCATIONAL IDEAL. — In the various solutions of the moral problem of life offered by Plato, Aristotle and other Greek philosophers, the key was found in the intellectual nature of man. Since high intellectual attainments were possible only to a few, such solutions were aristocratic in nature and partial in application. Opposed to this, Christianity offered the solution found in man's moral nature. Since the moral nature is common to all alike, or at least is possible of development in all, such a solution was universal in its application. It was in no ideal of immediate happiness or of any activity of the rational nature that Christianity discovered its solution of the world problem. It was in the idea of Christian charity or love,

— that expression of personality which is most individual and most complete and which at the same time, from its very nature, finds its expression in objects or personalities external to itself. Thus in the moral nature, which pagan religion had so slightly affected, and which Greek philosophy had but dimly apprehended, a new basis of life was found and a new solution of the fundamental educational as well as ethical problem was secured.

Individual and social elements harmonized in the ideal of Christian charity or love

This position led to an indifference on the part of the early and mediæval Christians to the intellectual and æsthetic features of the Græco-Roman education and culture. Christianity also offered its greatest boon to classes wholly neglected in the economy of pagan society and Grecian culture. When it was further realized that the literature, culture and schools of the old civilization furnished the strongest intrenchments for paganism, there grew up a general hostility between Hellenism and Christianity that at first had not been evident. Thus moral and religious elements replaced the intellectual, æsthetic and physical elements in the dominant educational ideals and practices.

Indifference to literary and æsthetic elements

A complete readjustment of social and educational factors occurred. Religion with the Greeks and Romans was chiefly a political concern. It had little to do with personal morality and right conduct. Ethics had been associated with philosophy. Under Christianity, religion was dissociated from politics. Ethics and morality, through their new connection with religion, were given an unprecedented hold on the masses of mankind. With this new alignment of religion, ethics and politics, there came other readjustments of vital interest to education. Religion lost its previous relationship to æsthetic culture and to literature, philosophy its intimate connection through ethics with the practical life. The new moral and religious character of education, excluding the æsthetic and intellectual phases so essential to the education of the classical world, persisted for many centuries.

Readjustment of social and educational factors

Friendly attitude of early Greek Christians to Greek learning

ATTITUDE OF THE EARLY CHRISTIANS TOWARD PAGAN LEARNING. — The relation of Christianity to the pagan learning and culture divided the leaders of the early Church into two quite well-defined groups. One group held that this ancient learning contained much that was valuable for Christians and for the Church; that much of it confirmed the teachings of the Bible; that philosophy as well as Christianity was a search for truth; that all philosophies contained some valuable truth, though not the highest and not complete; and that Christianity should therefore include all this ancient learning and build upon it. The other group recalled the scorn of the Greek philosophers, the insults and the atrocities heaped upon Christians by the representatives of this heathen culture, and the immoralities contained in their literature and sanctioned by their religions. Therefore they held that there could be no compromise between the truth and the world; that philosophies when connected with Christianity produced only heresies; that literature and culture in general represented merely the pleasures and the seductions of the world. They believed that those who were instructed in the legends of Homer, in the myths of Zeus and the gods, got from them nothing but lessons of impurity, and, hence, that such literature and in fact all ancient learning should be rejected as hostile to the purposes and interests of Christianity.

Grounds of opposition of Church to Greek learning

In general the view friendly to this learning prevailed in the earlier history of the Church and especially in the East among the Greeks. The hostile view became more general in the West and prevailed among the Christians of those parts even before the overthrow of the old social structure by the barbarians. It was but natural that the Christians of the West should identify heathenism with this ancient culture, for the chief hold which the old religion retained upon the people was through this literature; the most forcible opposition to the progress of the Church came from the class most conversant with this literature; and the chief stronghold of the pagan régime was in the schools. With such a hostility it is not to be

wondered that learning almost ceased to exist, and that there followed for some centuries the period commonly termed "the dark ages."

Since this attitude of the Church explains to a large extent the condition of education for a thousand years, some further explanation of it should be given. One of the most important causes of this attitude has been mentioned. It is the fact that the great mission of the Church, as well as the great need of the times, was a moral one. Added to this was the belief prevalent throughout the early Church that the second advent of Christ was near, and that consequently learning, culture and in fact all mundane affairs, were of trivial importance. The persecution and the exile which many Christians in the first three centuries were compelled to undergo deprived them of all opportunity for the acquisition of pagan learning, even if they had desired it, and destroyed all inclination to attain to the most distinctive possession of their persecutors. In the following section, on monasticism, one other great reason for this indifference is discussed more fully. This is asceticism or the opposition to all worldly interests and to all that gives satisfaction or pleasure of a natural or human character. Two other reasons, one operative in the earlier centuries, the other in later times, explain in part this indifference of the Church to learning. In the early period its success was largest with the lower class of people, to whom its message brought a wonderful deliverance. They were disinclined, through nature, through sympathy and through tradition, to take any great interest in the culture that had been made possible only by their debasement. In the later period, the strength of the Church was found in the new Teutonic peoples, whom the Church raised out of barbarism, but to whom it was impossible throughout many generations to impart the graces of culture. Again, the unification of the Church in the West and its reputation and desire for orthodoxy acted as a check not only upon learning, but also upon the spirit of inquiry, which was fostered or permitted in the East long after it had disappeared in the West.

Reasons for this opposition in the Western Church found in the early history of the Church

and in the character of Teutonic converts

Attempt of Greek Fathers to identify Greek philosophy and Christian teaching

The Attitude of the Greek Christian Fathers toward Learning is typical of the attitude of the Church in general. Many of them had been Greek philosophers before their conversion and all of them had been pupils in Greek schools. All encouraged the study of literature and philosophy. Clement of Alexandria (c. 160–c. 215), one of the formulators of the theology of the Christian Church, held that the Gospels were perfected Platonism and that "Plato was Moses Atticized." He taught that pagan philosophy was "a pedagogue to bring the world to Christ." Another of his doctrines was that God had made three covenants with man, — the law, the gospel and philosophy. Most of his teachings and writings were directed toward the reconciliation of faith and reason, of Christian revelation and pagan philosophy. In this general attitude, Justin Martyr (c. 100–c. 175) and Origen (c. 185–c. 254) agree.

Later Greek Fathers recognize difficulty, even impossibility of this reconciliation at that time

By the time of St. Basil (331–379) and Gregory of Nazianzus (c. 325–c. 390), the opposition of the Christians to pagan learning and especially to Greek philosophy had become more pronounced. But both these Fathers unite in the protest of the earlier ones against this prejudice and in the effort to show that Greek literature is full of principle and event, of precept and example, helpful in instruction and leading to the higher life. However, the opinions of these later Fathers is not so unqualified as that of the earlier. It is only within limits that learning is recommended. Chrysostom (c. 347–411), though not in condemnation, it is true, yet with greater disparagement, writes, "I have long ago laid aside such follies, for one cannot spend all one's life in child's play." And Basil, writing on the education of children, thus sums up his judgment, expressed fully in a much longer discussion: "Are we then to give up literature? you will exclaim. I do not say that; but I do say that we must not kill souls. . . . In fact, the choice lies between two alternatives: a liberal education which you may get by sending your children to the public schools, or the salvation of their souls which you secure by sending them to the monks. Which is to gain the day,

science or the soul? If you can unite both advantages, do so by all means; but if not, choose the more precious."

Latin Fathers were consistently hostile

Attitude of the Latin Church Fathers. — In the West, by the fourth century, especially among the Roman Christians, Hellenism had become almost synonymous with hostility to the Church. This is true, notwithstanding the fact that most of the Latin Fathers — Tertullian, Arnobius, Lactantius, Gregory, Augustine — had been teachers of oratory or of rhetoric. Tertullian, in his chapter *On Schoolmasters and their Difficulties*, denied that a Christian could be a teacher of ancient learning.

Jerome's vision and its representative significance

To St. Jerome (331–432), the translator of the version of the Bible accepted by the Church for centuries, this conflict between the classical learning and the Christian faith became most clearly defined. Perhaps no single event of this general conflict had so great an influence upon succeeding generations, as that of Jerome's famous vision (374). Dreaming that he was dead and dragged before the judgment seat, he was asked the question, "Who art thou?" Upon answering, "A Christian," he heard with the stricken conscience that repeated its awful warning to many successive generations, the terrible judgment, "It is false: thou art no Christian; thou art a Ciceronian; where the treasure is, there the heart is also."

Change in attitude of St. Augustine

In the case of St. Augustine (354–430) as in that of Jerome, a retrograde movement from an earlier devotion to classical learning is to be found. Until middle life a teacher of rhetoric and oratory, Augustine had partially completed an encyclopedic treatise on the liberal arts. Intellectually the most active and the most brilliant of the Fathers of the Western Church, and exerting the widest, the deepest, and the most far-reaching influence of them all, he called his extended learning into service in combating the many heresies in the Church. Thus although in his earlier years he sanctioned "the spoiling of the Egyptians," as he termed the study of the classics, at a later period of his life his sympathy for classical learning was much restricted. He discountenanced its use and is supposed to have been

personally responsible for the prohibition of philosophical and literary study made by the Council of Carthage.

The discipline of Christian life was a schooling

EARLY CHRISTIAN SCHOOLS. Christian Life a Schooling. — In its reaction against this corrupt society of the last pagan centuries, life in the early Christian Church was in itself a schooling of very great importance. To be sure, this was not a schooling of an intellectual character, but we have previously seen how formal and how futile was the intellectual education of Rome for some centuries of the new era. Education was now to possess very little of the intellectual element for a thousand years. The early Church was concerned in the moral reformation of the world, in the destruction of the state of society already described; for this reason it turned its attention wholly to the moral education of its own membership and thus to the regeneration of society.

The training of converts on probation organized into a school

Catechumenal Schools. — The earliest aspect of the life of the Christian Church that approximated a formal schooling was the training given to converts both young and old. As in heathen countries at the present time, so it was necessary then to postpone the reception of such converts into full membership until a period of probation for instruction in doctrine and trial of Christian life had been passed. Such probationers were called catechumens, and such schools, catechumenal schools.

Incorporation of Greek learning into such school for learners and teachers

Catechetical Schools. — As the Christian leaders at Alexandria and other Eastern centers came in conflict with the Greek schools of thought, it became more and more necessary to equip the leaders and the ministers of the Church with a training similar to that of the Greeks. For some centuries Alexandria was the center of this intellectual and theological activity. In 179 A.D. Pantænus, a converted Stoic philosopher, became head of the school for catechumens at Alexandria. Through him and his successors both philosophy and rhetoric — in fact all the Grecian learning — were brought to the service of the Church. Pantænus was succeeded in turn by the two most noted of the Greek Church Fathers, Clement and Origen, from whom came the earliest

formulation of Christian theology. Similar, though less important, schools grew from the catechumenal schools elsewhere. These were the catechetical schools. However, since the schools for catechumens used the same catechetical method, the term *catechetical schools* is often used in a more generic sense to include both.

Episcopal and Cathedral Schools. — In time such schools came to be organized by each bishop for the training of the

Incorporation of these schools into the Church organization under the control of the bishops



A Cathedral School

clergy for churches under his supervision. As the life of the priests gathered in these central places was brought into subjection to regular rules or canons, as was first done in 354, it became possible to regulate the work of such schools more definitely. During the fifth and sixth centuries the Church councils legislated that children destined for the priesthood should be early placed in these training schools under the charge of the bishop. In the West such schools were more commonly called cathedral schools, from the building in which they were

located. After the overthrow of Roman culture by the barbarians, when education had completely fallen into the hands of the Church, these schools with those of the monasteries remained the only ones of the West.

§ 2. MONASTICISM. EDUCATION AS A MORAL DISCIPLINE

The monastic or regular clergy lived under rules

SCOPE AND IMPORTANCE OF MONASTIC EDUCATION. — The term *monasticism* in its most general application indicates the organization of those who have taken special vows of a religious life and live according to rules controlling conduct in most minute details. For this reason they are generally termed the *regular* clergy, as opposed to the secular clergy, who do not live under special rule and who pass their lives in close association with the lives of the people.

Monastic schools were the most important and numerous educational institutions during the Middle Ages

We have noted the establishment of cathedral or episcopal schools under the control of the bishop, for the training of the secular clergy. But in western Europe, from the seventh century to the Reformation, the most important type of school was that of the monastery. Under these must also be included the schools of the mendicant friars, which were established during the thirteenth and fourteenth centuries (p. 153). After the Reformation, other monastic orders, termed *teaching congregations* (p. 201), were organized especially for educational work.

Since the term *monastic education* indicates a great variety of activities, includes the work of a great number of orders, and covers a scope of territory from Egypt to Ireland, and a period of time from the sixth century well into modern times, only its most general characteristics can be here discussed.

Monastic or ascetic element found in various religions

ORIGIN OF MONASTICISM. — The primary idea of monasticism is asceticism. In its original significance, asceticism was the training or discipline of the athlete in preparation for the physical contests. In its figurative use it indicates the subjection or the disciplining of all bodily desires and human affections in order that the mind and soul may be devoted to the

interests of the higher life. Found in some degree in all beliefs, it was given a special prominence in many religions, — in the Jewish, the Persian, the Egyptian and in several of the Grecian philosophical sects, — with which Christianity early came in conflict. In all of these the highest ethical thought was that of rising to spiritual excellence and insight through the elimination of all natural and material wants. Through fasting, penance, flagellation, or through prolonged and enervating physical exercise, the quiescence of the physical nature and the complete eradication of temporal interests were obtained. Thus the Christian ascetics united in themselves the Stoic virtues of contempt for pain and for death and of indifference to the vicissitudes of fortune, the Pythagorean customs of silence and of submission of the physical nature, and the Cynic neglect of the obligations and the forms of society. The ascetic idea found support in Christ's commands to take no thought for the morrow, to sell all one's goods and give to the poor, to forsake father and mother, wife and children, and, above all, in the frequent exhortations to world-renunciation and to the devotion of one's self to the service of spreading the gospel.

The elements in Christian asceticism

The particular occasion of the rise of monasticism in the East was the intimate relation of Christianity to other Oriental religions. The particular occasion for its spread in the West was the development of the secular character of the Church and the worldly life of its communicants after the general inclusion of the Roman population within the formal limits of Christianity. The first prominence was given to monasticism by St. Anthony, who in 305 fled to the desert on the shore of the Red Sea and there subjected himself to a series of physical penances which became the model for a long line of exacting, ingeniously devised and herocially endured practices for the mortification of the flesh. Monasticism was transferred to Rome by Athanasius (296–373) and Jerome (340–420). In the West the monks lived in communities rather than in isolation as hermits, as was the usual custom in the East.

Introduction of monasticism into the West

Rules of St. Benedict, 529

MONASTIC RULES.—At first each of these groups formulated its own rules. Among these was Benedict, a patrician who had fled from the corruption of Rome and had attracted many by his life of spiritual devotion. In 529 he drew up a set of rules for his own community. Through the influence of the popes these rules were soon adopted quite generally by the monastic communities in western Europe. These rules were not necessarily exclusive, but were at first adopted as supplemental to the local rules. During the tenth century the Benedictine rules were made more rigid by the "Cluny reform." During the eleventh and twelfth centuries still more rigid rules were adopted by a variety of new orders. The most notable of all was the Cistercian Order, founded in 1098. The rules of this order enjoined absolute silence, provided for the solitary life so far as possible, simplified worship, and applied in their churches and ceremonials provisions more rigidly ascetic than any previously formulated.

Later rules

Content of Benedictine rules

The original rules of St. Benedict were seventy-three in number. Nine related to the general duties of abbots and monks; thirteen to worship; twenty-nine to discipline, errors, penalties; ten to the administration of the monastery; and twelve to various topics, such as reception of guests, conduct of monks while traveling, etc. The distinctive feature of the Benedictine Rule was insistence upon manual labor of some kind, added to the implicit obedience which the monk must render to the abbot in the performance of this work. In very great divergence from the ideas and habits of the monk of the East, indolence was termed the enemy of the soul. To provide against this, at least seven hours a day must be given to some kind of toil. Thus many of the evils that had come into monastic life as a result of idleness were eradicated. The more subtle evils of a subjective kind, arising from enforced solitary confinement and a brooding over imaginary evils by minds little adapted to profit from such a course, were also eliminated. The Benedictine Rule is the first recognition of

Provision for manual labor and its consequences

the value of manual labor in education. Though the conception of education and the value placed upon the manual activities in this moral training were both very different from those in our own time, they were a great step beyond the position of the Greeks and Romans. From this provision came most of the social benefits of monasticism in the West, — for monasticism was an education in the broadest social sense of the term. In the cultivation of the soil the monks furnished models for the peasantry. They introduced new processes for the craftsmen in wood, metal, leather and cloth. They gave new ideas to the architect. In a way they stimulated and fostered trade among the mercantile class. They offered asylums to the poor, the sick, the injured and the distressed. They drained swamps and improved public health and public life in almost every way.

Social value of these rules

The Benedictine rules also provided that two hours of each day should be devoted to reading; indicated the portions of the Bible and of the Fathers to be read; provided for the reading of the Bible during the meal hours; and through minute rules saw to it that these times for reading were not to be wasted in idleness, in sleep or in talking.

IDEALS OF MONASTIC LIFE AND EDUCATION. Asceticism an Ideal of Discipline. — The rules of monastic life might present the greatest variation; its ideals were everywhere the same. In all places and in all ages its dominant ideal was that of asceticism. The virtue of the monk was often measured by his ingenuity in devising new and fantastic methods of mortifying the flesh through fasting, through eating insufficient and inappropriate foods, through taking insufficient sleep, through wearing insufficient clothing, through assuming unnatural postures of extreme discomfort and maintaining them sometimes for months, through uncleanliness of body, through binding the limbs with ligatures, through loading the body with chains and weights, through every means which would reduce or even destroy the natural wants or which would produce suffering from insufficient care for them. This irrational régime might

Educational aspects of the ascetic rules

either destroy or weaken the mind. In any case it would make it subject to abnormal visions, which would be increased by the terror of such temptations. However, this seems seldom to have been noticed by the monks. All these forms of discipline were for the sake of the spiritual growth, the moral betterment of the penitent. All these, as the very significance of the word *asceticism* indicates, reveal the dominant conception of education which prevailed throughout this long period, — the idea of discipline of the physical nature for the sake of growth in moral and spiritual power. The ideals of monasticism were usually summed up in the three ideals of chastity, poverty and obedience, or more technically, conversion, stability and obedience.

Negative social influences of these ideals

Social Significance of these Ideals. — Thus, in a manner, the monastic ideal had its negative as well as its positive significance. In its three great ideals it negated the three great institutional aspects of social life, — the family, industrial society and the state. It represented a type of disciplinary education which left out of account these three great classes of needs of society and emphasized and developed those moral virtues that, in a restricted sense, found expression largely through the Church and religion.

Positive social influences

On the other hand, monasticism became in the larger sense an educational force of very great importance to society as a whole. Each one of these monastic ideals introduced new factors into social development. For example, the habit of obedience, with its accompanying virtue of humility, presented as great a contrast as can be imagined to the strong individualism of the barbarian and the arrogance of the Roman. The ideals and habits of the monks entered into the reorganization of society in the institution of feudalism, revealed themselves in the crusade movement, and probably did more than any other single factor in the subjection of the rude Teuton to the restrictions of civilization and culture.

MONASTICISM AND LITERARY EDUCATION. — As we have seen, monasticism was not primarily a scheme of education

in the literary or school sense. Its conception of education related to the formation of moral and religious character alone. Many, consequently, have resented any criticism of the learning or of the educational efforts of the monks as altogether invalid, on the grounds that an institution or a class of people is not to be held responsible for that which it does not explicitly undertake. It is true that until the organization of the teaching orders in the sixteenth and seventeenth centuries, the monastic orders did not make education a controlling aim; on the other hand, it is also true that, from the seventh to the opening of the thirteenth centuries, there was practically no other education but that offered by the monks. Moreover it was the Church and the monastic institutions which were responsible for the facts that no other conception of education existed and no other educational institutions were tolerated.

Educational interests of literary character were wholly subordinate

Study in the Monasteries. — St. Benedict provided for seven hours of labor, chiefly manual, though it might be literary; and for from two to five hours of reading each day. Some similar provisions had been made before by St. Basil in the East. From these provisions, imposed only as matters of discipline for the monks, came most of the indirect social benefits of monasticism. If the monks must read, they must be taught to read, they must have books, and they must in turn teach the novices to read and copy manuscripts. Hence, without any word in the rules concerning schools and with but the briefest reference to the training of the youth accepted for the monastic life, without any direct reference to the copying of manuscript or to the study of literature or to the preservation of books, all of these things followed.

Provisions for study in the monastic rules

But there were other causes contributing to make the results of this one provision so great and so far-reaching. In those restless ages of rude culture, of constant warfare, of perpetual lawlessness and the rule of might, monasticism offered the one opportunity for a life of repose, of contemplation, and of that leisure and relief from the ordinary duties of life which are

Gave opportunity for study to all so inclined

essential to the student. Hence the youth, who came at the age most impressionable and most given to the pursuit of ideals, was influenced toward the life of reflection and of study. Those also who had been bereft of family and of protection found in the monastic cell a retreat and in study a consolation. While those worn out with a life of toil, or shocked by the brutality and callous indifference about them, found in the monastery a natural resting place, and in the pleasures of a life of reflection and of study a legitimate reward for the burdens they had borne.

Wide scope of their educational and literary influences

Thus it happened that the monasteries were the sole schools for teaching; they offered the only professional training; they were the only universities of research; they alone served as publishing houses for the multiplication of books; they were the only libraries for the preservation of learning; they produced the only scholars; they were the sole educational institutions of this period. In each of these lines their activities were, to be sure, meager. But the opportunities were meager, and, however great the needs, the conscious social demands of the times were more meager still.

Monasteries noted as centers of learning

Every monastic rule — and they were much more numerous than this brief account would seem to indicate — either authorized indirectly or commanded directly the study of literature. The most famous monasteries in every country were those noted for their learning and for the training they afforded. Typical of these were those of Fulda and Hirschau in Germany; those at Tours, Corbie, Bec, and Cluny in France; of St. Gall in Switzerland; of Glastonbury, Malmesbury, and Canterbury in England; of Monte Cassino in Italy. While these were exceptional institutions, there were many others that adopted as their motto, "Love the study of Scriptures and you will not love vice."

The negative aspect of this relation of monasteries to study must also be noted. The *Scripturæ Sacræ*, which the monks were commanded to study, included all religious writings, but it did

not go beyond these. Moreover, study was never an end in itself, but simply a disciplinary means or an occupation for otherwise idle moments. The instant study became an end or a pleasure in itself, the very purpose of its introduction into the monasteries was negated. Further, it is just as erroneous to argue from a few exceptional cases, such as St. Gall, or Monte Cassino, that "to the monk of the tenth century no knowledge was unfamiliar," as to argue from other occasional instances that they knew nothing. It is quite evident that many monks were entirely ignorant; that many monasteries gave practically no attention to learning; and that those which gave attention to secular literature were comparatively few. To most monks the study of ancient literature, disapproved as it had been by the Church for several centuries, represented distinctly the interests and the temptations of the world. The desire for such study was indulged in only at a distinct risk or as a positive sin. Such study was a gratification of human desires, a satisfaction of the tastes, that was distinctly hostile to the idea of asceticism.

Interest in religious literature alone tolerated

Dangers in the study of secular literature

In addition to this, such studies were the cause of heresies. Quite as prominent in its early history as they are now were the many divisions within the Christian Church. Even as late as the period of St. Augustine, these numbered eighty-five according to his own enumeration. As a result of this, both error of judgment and the state of intellectual doubt came to be looked upon as sinful. One of the most commendable traits of ancient society within the polytheistic period of Greece or Rome or in the later skeptical cosmopolitan period, was toleration of beliefs. To this fact Christianity itself in its early days owed very much. But to the Christian, tolerance of a belief that might mean eternal damnation to those enslaved by it was no virtue. Hence the very basis of all intellectual progress — the spirit of inquiry and the desire for truth or reality, irrespective of its effect upon emotional states or religious beliefs held as a matter of faith — was wanting to these ages.

Greek philosophy the origin of heresies

Schools in the Monasteries. — Except for the training of the

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monks themselves or of the youth offered for monastic life, the monasteries made little provision during several centuries for schooling of any kind, and that given was chiefly of a religious character. The arts of reading, of writing, of singing, and of calculating the Church calendar were necessarily given, though probably the last was reserved for but a few. Later supplementary rules required a novitiate of two years, and stipulated that no member should be received into the order under eighteen years of age. As boys not yet in their teens were often accepted, a prolonged schooling and discipline were provided.



A MONASTIC SCHOOL
From a British Mss. antedating the Norman Conquest

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Previous to the last of the eighth century such schools throughout western Europe were very rudimentary. The learning of the monasteries was very meager, and there was no opportunity for the education of boys not destined for monastic life. Then, through a movement headed by the Emperor Charles the Great and his minister Alcuin (pp. 125–8), monastic schools became more numerous and of better grade. Soon they came to provide an education for youth not intended for monastic life. Such pupils were called externs in distinction to the interns, or those destined to take the monastic vows. It was not until the eleventh century that there was any education to speak of outside of monastic schools, and not until the thirteenth century that there were any marked changes in the character of education given in any institutions. During all of this period it might be

said that every monastery was a school, and that all education was either in the monasteries or under the direction of monks.

No demand for schools outside of the Church

It must be remembered that the masses of the people of these centuries were little more than barbarians and that they certainly took much more naturally to warfare and destruction than they did to schooling. The Church and the monastery must not be held altogether responsible for the fact that schools were not more numerous, and that the character of their work was not of a higher grade. That learning should be preserved at all was no inconsiderable service.



A MONK IN THE SCRIPTORIUM

The Copying of Manuscripts and the Preservation of Learning. — Through the work of the monks in the copying of manuscripts, whether as a form of monastic discipline or through real interest in learning, most of the writings of the past that we now have were reproduced frequently enough to prevent their annihilation. This activity continued from the period of the formulation of the Benedictine rules. In later centuries the *scriptorium*, or general writing room, was an architectural feature of most monasteries. That this work of the copyist was not merely mechanical, but was designed to have an intellectual and moral effect as well, is indicated by the words in dedication of the *scriptorium:* "Vouchsafe, O Lord, to bless this room of thy servants, that all which they write therein may be comprehended by their intelligence and realized in their works."

To the custom of copying manuscripts we owe the preservation of the physical bases of learning

Destruction of manuscripts not so general as formerly supposed

On the other hand, the monks have often been accused of destroying the literature of the past. Many of the extant manuscripts devoted to the chronicles of the monastic foundation, to wearisome comment on some older sacred writings, or to the disquisitions of the Schoolmen, are written on parchment from which a previous writing, usually of some classical texts, has been removed by chemical or mechanical process. In this way undoubtedly, many classical texts were destroyed. Such were chosen for destruction with the distinct feeling that they were unworthy of preservation. Possibly in this way some ancient texts have been lost for all time. It is now believed that this custom was not nearly so general as was formerly supposed. It was probably due to a scarcity of parchment, especially during the thirteenth century.

The monasteries collected and preserved books

The Monasteries as Depositories of Literature and Learning. — One service which monasticism performed for learning cannot be gainsaid. Whatever of ancient learning and literature we have preserved to us to-day, is largely owing to the monks. Though the Arabs added much during the later Middle Ages, even then such additions were given into the possession of the monks.

Most monasteries preserved but few books

While the majority of monasteries possessed but few books, probably none outside of a strictly religious character, there were many that possessed hundreds and some few whose volumes mounted to the thousands. The few monasteries especially noted for their learning had large libraries, and gave particular attention to the collection of books through the exchange of duplicates made by the monks. Among these more noted foundations, there existed a very definitely regulated system of exchange. Several of the later orders made special provision in their rules for this interchange and for the requisite work of copying; some few made it a means of financial support. But with the founding of the universities and finally with the invention of printing, the monasteries ceased to give much attention to this activity; or at least, with changed conditions, the literary character of their service no longer appeared conspicuous.

Exchange of books

With the invention of printing, importance of monks in multiplication of books ceased

The Monks as Literary Producers. — Though the range of their interests was not broad, yet until the general appearance of vernacular literature in the eleventh and twelfth centuries, the monks produced practically all the literature of this period. This included the lives of the saints, short moral tales or sermons, — such as are collected in the *Gesta Romanorum*, — Biblical or patristic comment, and monastic chronicles. During the latter half of the Middle Ages the literary product of the Schoolmen and of the vernacular poets became far more important than that of the monks. Yet the Schoolmen were practically all monks, for the most part at least were nominal adherents of the two great friar orders.

The monks wrote chronicles, lives of saints and scholastic discussions

The one other class of secular writings besides the chronicles is that devoted to the discussion of the Seven Liberal Arts or of one of the component subjects.

The Literary Heritage of Monasticism: The Seven Liberal Arts. — The Middle Ages possessed in outline all the knowledge of the few preceding and the few succeeding centuries; but in its content this knowledge was immeasurably more meager than that of either the preceding or of the following era.

Development of the Seven Liberal Arts

It was far from being in its ancient form, — for most of the original writings had disappeared, — but consisted of the knowledge of the ancients organized in a much abridged form by a few learned men, chiefly of the fifth century. The expression, *The Seven Liberal Arts*, as inclusive of all learning, came into vogue at this time. Long before the fifth century, however, practically all these differentiations into subjects had occurred; but it was reserved for the ecclesiastical and symbolical tendencies of the Middle Ages to limit the sciences definitely to seven. Plato had shown the distinction between what now came to be called the *trivium*, including grammar, rhetoric and dialectic, and the *quadrivium*, including arithmetic, geometry, music and astronomy. Varro, the most learned of the Romans, wrote, in the last pagan century, upon the liberal arts or studies, which included all of these, together with architecture, medicine

and philosophy. Quintilian, in his treatise on education, omitted dialectic and arithmetic from the liberal studies. St. Augustine (p. 107) wrote a treatise on two of these subjects and stated that he intended to write on five others. Writing in the same period, Capella completed his treatise on the seven in which all knowledge was presumed to be summarized.

The content of these subjects was broader then than now

Content of the Seven Liberal Arts. — One can hardly estimate the extent and the value of the learning of the Middle Ages until the content of these liberal arts is noted. Geometry, for example, always included the rudiments of geography; astronomy included physics; grammar included literature; rhetoric included history. The actual extent to which the literature of the ancients found any place whatever under grammar and rhetoric is a question to which very diverse answers are given. Isidore and Cassiodorus (p. 124) knew Greek and possessed a small library of Greek classics; but during the following centuries. the knowledge of the Greek language almost disappeared



AN ALLEGORICAL REPRESENTATION OF THE TRIVIUM
A Woodcut of the Thirteenth Century

from western Europe. Even the indirect knowledge of Greek literature, through Latin summaries or through extended references by such writers as Boethius, was very meager, as, indeed, was that of Latin literature. Some of the writings of Virgil and of Cicero were well known. For the most part, however, monasteries possessed but very few of the works of classical authors. The general attitude toward this literature and its study was distinctly hostile. Alcuin tells his pupils at Tours, "The sacred poets are sufficient for you; there is no reason why you should sully your mind with the rank luxuriance of Virgil's verse."

The hostile attitude toward literature as a fine art

EDUCATIONAL WRITERS OF THE EARLY MIDDLE AGES. — A few of the most important of these deserve to be mentioned.

Martianus Capella, a representative of the pagan culture of North Africa, wrote (between 410–427 A.D.) a treatise entitled *The Marriage of Philology and Mercury*. Throughout the first half of the Middle Ages this was used more widely than any other book as a text of the ancient learning. The god Mercury desires to marry, and all the machinery of the pagan heaven is set in motion, first to determine to whom, and then to celebrate the consummation of the marriage to the most learned maiden, Philology. The seven bridesmaids, or handmaidens, presented by Phœbus, are the Ars Grammatica, Ars Dialectica, Ars Rhetorica, Geometrica, Arithmetica, Astronomia, Harmonia, and each, as led forward in the ceremony, gives her parentage and expounds to the assembly the substance of the art typified. These speeches contain, in the driest of text-book form, practically all of the learning of the schools of these centuries.

Capella's *Marriage of Philology and Mercury*

Boethius (c. 480–524) was the most influential of all the learned men of the early Middle Ages. His chief service was to give to several succeeding centuries the little knowledge of the Greek writers, especially of Plato and Aristotle, that they preserved. While some of his briefer treatises gave impetus to the early scholastic movement, his more important works were not

Text-books of Boethius

known until the twelfth century. He gave to the Middle Ages logic and ethics, or the basis of the entire dialectic element in their education. He also wrote on arithmetic, geometry and music. These works of his were extensively used as text-books; some continued to be employed in some universities until well into the eighteenth century.

Literary influence of Cassiodorus on education

Cassiodorus (c. 490–585) was the prime minister of at least four of the early barbarian emperors, or Gothic kings, and thus served them as the interpreter of Latin culture as well as the exponent of their will to the conquered Romans. The latter half of his long life was spent in a monastery which he himself had founded. Here he wrote for his monks commentaries, text-books and an educational treatise containing a presentation of the seven liberal arts. Cassiodorus laid much emphasis upon study by the monks, urged them to give attention to classical writings, and directed that those without interest in letters should devote themselves to agriculture. These should read Cato, Columella and others writers on agriculture. Much of his wealth he devoted to the collection of manuscripts. It was through his influence that the custom of copying these as a specific part of the work of the monasteries, became established. To the influence of Cassiodorus was largely due the dissemination of the custom, begun by one of his monks in 562 A.D., of dating from the Christian era.

Etymologies of Isidore

Isidore (c. 570–636), bishop of Seville, is the distinctive representative of the mediæval learning. For his monks and clergy he composed an encyclopedia called *Origines* or *Etymologies*, which purported to be a summary of all knowledge worth knowing. This served as a common text in all the sciences.

Grammars

To gain a general survey of the text-books of the early Middle Ages, there should be added to these few works the *Grammars* of Donatus (c. 333–400), and of Priscian (c. 500) and *The Distychs* of Cato (said to be the work of Cato the Elder, 234–149 B.C.). This latter was a selection of moral sentiments in versified form, illustrating grammatical and rhetorical structure.

§ 3. THE CAROLINGIAN REVIVAL OF LEARNING

THE WORK OF CHARLES THE GREAT (r. 771–814). — The one important aspect of educational history from the seventh to the twelfth centuries that was not wholly monastic, was the revival of learning under the Emperor Charlemagne. The task of this great emperor was to unify the work of the Teuton and that of the Roman, to adjust the barbarian Frank to the Roman culture, to transfer the foundations of social organization to the German, who was hereafter to build upon it the structure of modern society. The transfer of the religious element had been made through the Holy Catholic Church, and the barbarians were now at least nominal Christians. Through the Holy Roman Empire, established by Charles in 800, the political and legal structure of society was finally accepted by the Teuton. There remained to be added to these forms of external unity, that internal unity which consists in a community of ideas, of language, and of the cultural elements of social life. It was the ambition of Charles to bring about this union, by the adoption of the Latin language, of the learning of the Church, and of such of the Roman culture as survived.

The fusion of Roman and Teutonic elements in civilization

In 782 Charles called Alcuin from the cathedral school at York to assist him in this work. For a century or more preceding this time, Irish monks had been largely instrumental in missionary and educational activities on the Continent, and the chaplains of the court of the Merovingian kings had in a way attempted to foster learning. But this school of the palace was developed by Alcuin into a definite institution, patronized by Charles himself, by other members of the royal family, and by the youth of the nobility. From it Charles drew many of his assistants in the administration of his great empire. While the work of the school was very meager in its literary character, yet its importance was great owing to the influence which it exerted as an example. In 787 and following years, Charles

The palace school and its influence

issued his capitularies upon schools, which have been considered by some, though in a somewhat figurative sense we believe, to be the foundations of modern education, — "the charter of modern thought." They commanded the study of letters both by the clergy and by the monks.

The capitularies of Charles and the reforms of monastic education

The capitulary of 789 says: "Let every monastery and every abbey have its school, where boys may be taught the Psalms, the system of musical notation, singing, arithmetic, and grammar; and let the books which are given them be free from faults, and let care be taken that the boys do not spoil them either when reading or writing." Charles's officials, the *missi dominici*, were empowered to visit all monasteries, in order to enforce the provisions of these edicts and to see that the monks lived according to their rules. At least in one bishopric, that of Orleans, there was an attempt to carry out similar provisions in regard to the parish churches, and thus to form a system of elementary schools. This gives basis to the extravagant claim that elementary education for the lower classes was more general in France in the eighth century than in the early half of the nineteenth century. The other extreme of interpretation is given by Gibbon, who summarizes the whole movement by saying that "the emperor strove to acquire the practice of writing, which every peasant now acquires in his infancy."

Alcuin as Abbot of Tours

Alcuin (735–804), on account of his influence upon Charles, as seen through these various edicts, is generally regarded as the most important educator during the first half of the Middle Ages. The abbacy of Tours, which Charles bestowed upon Alcuin in 794, was the most important ecclesiastical office in France. Its landed possessions were almost a department in extent, and it was offered as a reproach to Alcuin that he was master of twenty thousand slaves. This monastery Alcuin made the center of learning in France as well as the center of influence in the Church. To him flocked the youth desirous of learning, and from the monastery went out an ever increasing stream of influence in the work of his pupils and disciples, in numerous

monasteries throughout the land. In Alcuin's later years, his ideas of education grew more restricted. He rejected the study of the classical literature, to which as a youth he himself had been addicted; he emphasized the ascetic aspect of the monastic training; he limited his pupils and the monasteries in general to the study of the sacred writings. On the other hand, he took pains to build up a great library at Tours, sending copyists to England for this purpose, and encouraged a like activity and interest in the other monasteries. Though his learning was probably as great as that of any one of his century, yet his scholarship was limited. His great service was to bring learning to the support of the Church, and in conjunction with Charles to demonstrate that intellectual training was quite as essential to the welfare of society as efforts at purely religious and moral betterment.

His ideas of education were narrow

Following Cassiodorus, with whose writings he was familiar, and from whom he borrowed in his own writings on the liberal arts, he identified these latter with the seven pillars of the temple of wisdom and thus gave Biblical sanction to such study. He himself wrote on *Grammar*, on *Rhetoric*, on *Dialectic*, on *Arithmetic*, and on *The Seven Liberal Arts*. The treatises on the special subjects are in the catechetical form, — that of question and answer, — so familiar for centuries to come. Some of them are almost puerile in character. The arithmetic consists of fifty-three propositions, of which forty-five are in simple reckoning. Many are in arithmetical and geometrical proportion, with little or no idea of principles involved. Several are trivial catch questions of modern almanac variety, such as "After a farmer has turned thrice at each end of the field, how many furrows has he drawn?" Alcuin's reputation as a scholar depended upon his several works on grammar.

Educational writings of Alcuin

Rabanus Maurus (776–856) was the ablest and most noted pupil of Alcuin. As the abbot of Fulda, the first and most important monastery and school in North Germany, he exerted an influence in this region similar to that of Alcuin in Frank-

The school at Fulda under Rabanus

land. Like Alcuin, he had some slight knowledge of Greek, but being of more virile mind his chief interest was in dialectic instead of in grammar. Dialectic he terms the science of sciences, which teaches us how to teach and how to learn. One of his important works, *The Education of the Clergy*, contains a treatise on the seven liberal arts and hence covers the entire field of education of his day.

The beginnings of scholastic discussion under John the Scot

Joannes Scotus Erigina, or John the Scot (c. 810–c. 875), the most noted successor of Alcuin in the palace school, was called by Charles the Bald, about 845, from the British Isles as Alcuin had been by Charles. Of greater scholarship than either Alcuin or Rabanus, he introduced the study of the Greek language and brought a wider knowledge of the ancient learning, especially of the Greek Fathers, than had hitherto been found among the Teutons. With a much more liberal attitude toward the pagan authors, with whom he had a fairly wide acquaintance, he made the work of Capella the chief text in secular learning in the monasteries. Of more vigorous mind than any of his predecessors, he laid more emphasis upon the study of dialectic than had any before him. Being somewhat heretical in his views, he stimulated an unprecedented activity in theological discussion. With John the long conflict between realism and nominalism really begins. The work and influence of Rabanus Maurus and John the Scot lead directly to the great revival of intellectual interest in the eleventh and the twelfth centuries which will be discussed under scholasticism.

§ 4. SCHOLASTICISM. EDUCATION AS AN INTELLECTUAL DISCIPLINE

NATURE OF SCHOLASTICISM. — Scholasticism is the term given to the type of intellectual life, and hence of education, that prevailed from the eleventh to the fifteenth century inclusive. It was largely responsible for the origin of universities and represented the work of these institutions for three

or four centuries. Scholasticism produced a vast literature which possesses very distinct characteristics of its own. Its aim was definite, though narrow; its subject-matter restricted; its method keen and subtle; its outcome fruitful in the development of certain mental traits and abilities. As a type of intellectual life, scholasticism has been as grossly abused and as much underestimated during the centuries following its overthrow by the Renaissance movement of the sixteenth century, as it was over-valued by its own devotees. Scholasticism is not characterized by any group of principles or beliefs, but is rather a peculiar method or type of intellectual activity.

Scholasticism is the type of intellectual life that dominated during the later Middle Ages

It is not a body of principles

THE PURPOSE OF SCHOLASTIC THOUGHT. — The dominant characteristic of the intellectual life of the early half of the Middle Ages was the attitude of unquestioned obedience to authority; of receptivity to all doctrines, statements or incidents sanctioned by the Church; of dependence upon formal truths dogmatically established; of an antagonism to any state of doubt, of questioning or of inquiry as wrong and sinful in itself. By the eleventh century a new attitude was necessary. Heretical views had crept in from the East and had to be met by argument as well as by force. A few men of exceptional learning, especially John the Scot of the ninth century, had suggested many questions that could not be ignored. The study of dialectic, which had received new and unprecedented emphasis from the time of Rabanus Maurus, had stimulated an interest in intellectual activity and in the logical formulation and statement of religious beliefs. The Crusade movement had broken down the isolation and the rusticity of the people of the West through their contact with the variety of beliefs in the East. All these changes stimulated new intellectual interests and made it necessary to state religious beliefs in new forms.

With the breaking down of mediæval isolation, there resulted a new type of thought

The purpose of scholasticism was to bring reason to the support of faith; to strengthen the religious life and the Church by the development of intellectual power. It aimed to silence

Support of faith by reason

all doubts and questionings through argument. Faith was, however, still considered superior to reason. The *credo ut intellegam* ("I believe in order that I may understand") of Anselm was the dominant principle throughout the period. Church doctrines had long been formulated; they were now to be analyzed, defined, systematized.

Educational purposes of scholasticism, (1) to develop power of disputation;

Educationally, the purpose of scholasticism was included within this broad purpose. Scholastic training aimed to develop the power of formulating beliefs into a logical system and the power of presenting and defending such statements of beliefs against all arguments that might be brought against them. At the same time it strove to avoid developing an attitude of mind that would be critical of the fundamental principles already established by authority. In a more general way the aim of scholastic education was to systematize knowledge and thus give it scientific form. But to the scholastic mind knowledge was primarily of a theological and philosophical character. The scientific form valued was that of deductive logic. In this, the aim of scholastic education was brilliantly successful. Most exhaustive systems of knowledge, compassing the whole range of their interest, were elaborated. In some cases these systems were of such profundity that they have few rivals in more modern times and even yet serve as both basis and content of the intellectual life of large portions of modern society.

(2) to systematize knowledge;

(3) to give individual mastery of this system of knowledge

The third aspect of the educational purpose of scholasticism was to give to the individual a mastery of this knowledge, now reduced to propositions and syllogisms, all systematized into a logical whole.

Religious interests supreme

THE CONTENT OF SCHOLASTICISM. — Scholasticism was the complete reduction of religious thought to logical form. Since this organization was furnished entirely by the logical writings of Aristotle, scholasticism is often defined as the union of Christian beliefs and Aristotelian logic. All other phases of knowledge were subsumed under the religious. All legitimate knowledge had to be sanctioned by the Church; it

had to be given its place in the system of scholastic thought and reduced to the appropriate logical form. To do this was the task of the Schoolmen.

Given a philosophical form

The primary interests of the times were in the great doctrines of the Church concerning justification, predestination, the Trinity, the freedom of the will, the doctrine of the eucharist. The proper philosophical statement of these and of similar doctrines, the reduction of all to a harmonized system, their presentation with answers to all objections to the orthodox view and with refutations of all unorthodox interpretations, constituted the content of scholastic literature. Now it happened that during the very same period when circumstances emphasized the necessity of supporting by reason the beliefs of the Church, a certain fragmentary knowledge of the fundamental philosophical problems discussed by Plato and Aristotle became prevalent. In the very nature of the problem, the interpretation of the orthodox views came to depend upon the acceptance of some such view of the nature of reality as that of Plato, and the heretical theological views became bound up with a metaphysical doctrine contradictory to that of Plato.

Statement of doctrines of Church in terms of Greek philosophy

Plato's views that ideas, concepts, universals, constituted the only reality, became accepted by the orthodox Schoolmen under the name of *realism*. By the Schoolmen such general concepts were regarded as the archetypes in the Divine reason, and the various phenomenal existences and the species were regarded as merely copies or reflections of these thoughts of the Deity. The view that such ideas or universals are only names, and that reality consists in the individual concrete objects, — in the species of Aristotle, — was termed *nominalism*. The conflict between these two schools of metaphysicians continued long and loud, through four centuries and in innumerable volumes.

Nominalism vs. realism

But these views were of more than metaphysical interest; they compassed all interests. Consider, for a moment, the application of the views of the fundamental doctrines previously suggested. At this period the doctrine of transub-

Practical bearing of these philosophical views

stantiation had peculiar practical importance, on account of growing heresies, especially the Manichean. Believing that all matter was evil, the followers of Manicheus held that Christ's life was only an appearance and that the true God was not the God of the Old Testament. Now if ideas, *i.e.* what Plato called *substances*, are realities, as the realist held, and are hence independent of the *accidents*, attributes or qualities which identify them in the concrete and which to the nominalist constitute the only reality, then it is possible to distinguish between the substance and the accident, and it is possible to conceive of a change in the substance without any corresponding change in the attribute. Thus the Church justified its belief in the doctrine of transubstantiation, or the actual change in the bread and wine of the sacrament of the Lord's Supper. Thus this sacrament of the Church, wherein contact between Christ and the flesh was demonstrated daily, was an answer to the heresy that the divine could not have lived in contact with a wicked world. The explanations of other doctrines were very similar. So these philosophical views furnished characteristic solutions to all theological problems.

Great scholastic textbooks

The educational content of scholasticism consisted in the most noted of these systematized schemes of learning, with the innumerable comments upon them. During the twelfth and thirteenth centuries the two most noted of these were constructed, — *The Sententiæ* of Peter the Lombard (c. 1100–c. 1160) and the *Summa Theologica* of Thomas Aquinas (1225–1274). The former of these was the most generally used textbook of the remaining scholastic centuries. The latter was, and yet remains, the most complete and thorough presentation of the knowledge of the times, or, to be more exact, of the theology of the Church. It is still accepted by the Roman Catholic Church, as the orthodox presentation of its beliefs.

Preliminary to the mastery of such summaries of knowledge, scholastic education demanded the mastery of the science of logic or dialectic as a preparation for the practice of the art.

In general, the content of scholasticism and of scholastic education deals with the abstract and immaterial; while the tendency in current education is to reject all subject-matter of this nature and to deal only with that which is concrete and material in character.



A MEDIÆVAL DISPUTATION
A Woodcut of the Fifteenth Century

THE FORM OF SCHOLASTIC KNOWLEDGE. — The idea of organizing knowledge according to the mental development of the student is an idea of much later development. The complementary principle, that of organization based upon the logic

Logical organization of all subjects of study

of the subject, was fixed upon education for many centuries by this period of scholasticism. Hence in the introductory subjects, such as grammar, which the child first attempts in his school work, the most formal logical arrangement was adopted. The subject was presented to the child for his mastery in the order in which it appeals to the most mature mind. Previous to this time, the catechetical arrangement, that of questions and answers, was much followed, even in treatises upon the seven liberal arts. But with scholasticism the systematized, logical form prevailed almost to the exclusion of the other.

The method of logical analysis

THE METHOD OF SCHOLASTICISM was that of logical analysis. In reality there were two distinct methods used by the Schoolmen and in the universities as well. The one in most general approval was the analytical. The entire subject if a treatise by a Schoolman, or the entire text if a course of lectures in the university, was divided into appropriate parts, then into heads, subheads, subdivisions, etc., down to the particular proposition of each sentence. Each topic was examined most minutely after the manner of Aristotelian logic, under the headings of formal, final, material and efficient causes; of literal, allegorical, mystical and moral meaning. Thus with analyzed text and comment upon the basis of each division, the student was overwhelmed with a multitude of fine metaphysical distinctions.

The method of multiple interpretation

The other and freer method was that of stating the proposition, then the several possible interpretations with the difficulties of each interpretation, with the final selection of the favored one. The solution favored gave rise to other problems: these in turn suggested varying solutions with their appropriate answers. In respect to definite conclusions and to the systematic arrangement of knowledge, this method was inferior to the former. But in its stimulus to thought, to the freedom of inquiry, and to general progressiveness, it was far more beneficial in its influence.

DEVELOPMENT OF SCHOLASTICISM. — The doctrinal

disputes in dialectic form, especially those concerning transubstantiation, began with Scotus Erigina and his follower Beranger (d. 1088). Then logical and philosophical interests were wholly subordinate. During the eleventh century the conflict between realism and nominalism became definitely formulated in the discussions between Anselm (c. 1034–1109) and Roscellinus (d. 1106). Anselm was called the father of scholasticism. The critical work of Roscellinus was continued by one of his pupils, and one of the greatest of the Schoolmen, Abelard (Petrus Abelardus, 1079–1142), who, however, opposed the extreme nominalism of one of his teachers as he did the realism of William of Champeaux, his other teacher. His philosophical position, strikingly similar to that of Aristotle — a fact then unknown — was the compromise view of *conceptualism*. According to this view universals are existent, though not independent of the phenomenal form in which they exist, save as conceptions in the divine mind before creation. Abelard's position regarding the great philosophical question was a conciliatory one; but his real influence, and his writings in general, were far from it. His most influential work, *Sic et Non* (Yea and Nay), was a collection of passages from the Bible and from patristic writings, designed to show the conflicting ideas or views of the religious and ecclesiastical authorities, but giving no decision concerning their solution. Consequently inquiry was stimulated and the importance of research emphasized. But the unanimity of ecclesiastical authority being questioned, doubt was thrown upon its reliability. Abelard held that reason was antecedent to faith, and that much of Christian belief could be supplied by reason. The arrogance of ecclesiastical authority was thus shattered. Though the man and his writings were condemned, his life blighted by persecution, and his views regarded as heretical, yet his influence continued to exist as one of the most powerful forces in scholastic thought during the following period.

Scot Erig

Ans

Abe

The thirteenth and the fourteenth centuries constituted the

The great scholastic centuries

period of the complete dominance of scholasticism. During this period philosophy and theology seem to have been in complete sympathy; the widest extension was given to philosophical thought in its Christian dress; theological views were elaborated into most perfect and complicated systems; reason and faith were in fullest accord.

The work and reputation of the great Schoolmen

THE GREAT SCHOOLMEN. — The first of the Schoolmen to be acquainted with the entire philosophy of Aristotle and to employ it in the service of theology was Alexander of Hales (d. 1245), *The Irrefragable Doctor*, author of *Summa Theologiæ*. Bonaventura (1221–1274), *The Seraphic Doctor*, a Platonist rather than an Aristotelian in his philosophy, represented as did the Victorines of the preceding century the mystical tendency in thought and education. Albertus Magnus (1193–1280), called *The Universal Doctor*, was the first to reproduce the philosophy of Aristotle in systematic form and with constant reference to the Arabic commentaries that constituted so large a part of the new knowledge of the times. Thomas Aquinas (1225–1274), *The Angelic Doctor*, was the most influential of all. In his great work (p. 131) he represents the culmination of scholasticism, and is its authoritative exponent both in his own period and in subsequent times. Joannes Duns Scotus (c. 1271–1308), *The Subtle Doctor*, was famous as a founder of a school of theology rival to that of Thomas; his work, however, was rather of a critical and negative than of a constructive character.

William of Occam and the dominance of nominalism

The long line of great Schoolmen was closed by William of Occam (1280–1347), *The Invincible Doctor*, who revived again the nominalistic views. His work was rather an attack upon the entire realistic system than a formulation of specific doctrines. In general, Occam denied that theological doctrines could be demonstrated by reason, and held that they were wholly matters of faith. He held that particulars alone were real and that universals were mere conceptions of the mind. Thus he prepared the way for the careful, concrete study of the objects of nature

and of the mind. Whatever was vital to the spirit of progress now lived in nominalism only, and soon passed over into the new spirit of the fifteenth-century Renaissance. The old scholasticism persisted, but it no longer represented the progressive intellectual life or the most vital educational ideas and procedures.

MERITS AND DEMERITS OF SCHOLASTIC EDUCATION. —The first great limitation of the Schoolmen, and one sufficient to call forth the condemnation of the modern mind, is that they never stopped to inquire concerning the validity of the material with which they dealt or to ascertain whether they had all the data before attempting the conclusion. A second and related limitation is that the material they dealt with was abstract and metaphysical and was not supplemented by any knowledge of the concrete and physical. The truths they reached possessed only formal value. Such truths would affect primarily the thought life, and only indirectly and remotely the conduct of the people. One further decided limitation of the Schoolmen was the fact that much of their discussion possessed no reality; not only no reality in the concrete world of everyday life, but also no validity in thought. Much of it consisted merely of endless and profitless discussions about words and terms. Even against the greatest of the Schoolmen such a criticism is often valid. On the other hand, much of the modern contempt for the Schoolmen in this respect is based upon a failure to apprehend their point of view and their interest. To them all questions must be given a philosophical form and a theological bearing. Hence such trivial or even sacrilegious questions as those which are so often quoted as indicative of the puerility and utter worthlessness of scholastic learning in reality deal with subjects regarded as of vital importance in our own times. "How many angels can stand on the point of a needle?" "Can God make two hills without the intervening valley?" "What happens when a mouse eats the consecrated host?" — all such questions conceal beneath their simple form the profound inquiries concerning

Interest in argument, not in validity of conclusion

Formal character of conclusion

Charge of puerility due partly to misunderstanding

the relation of the finite to the infinite, the attributes of the infinite, the nature of reality. Give them a form that only the trained metaphysician can understand and they constitute the profundities of modern thought; give them such form as the untrained adult or the youth just beginning his course of scholastic studies can comprehend and handle, and they form the "monstrosities" of the Schoolmen.

§ 5. THE UNIVERSITIES

Grew out of the scholastic movement and the changed conditions of the times

ORIGIN OF UNIVERSITIES. — Under the stimulus of the interest in dialectic, a number of schools connected with the cathedrals and monasteries sprang into prominence in the later eleventh and early twelfth century. The essential elements of the early university — the students and the teachers — were found at Paris before the middle of the twelfth century. With the eleventh century western Europe, especially the Church, began to throw off the incubus to enterprise and the obstacle to greater intellectual freedom that existed in the belief that the millennium was at hand. The fact that during the tenth and the eleventh centuries the Northmen, the last of the migratory Teutons, accepted a settled life and gave to France and England a period of comparative peace, permitted a development of the interests of a stable civilization. Though they showed little appreciation as yet for the cultural aspects of life, these same Normans, in fact the Teutons in general, were endowed with virile minds. Hence they were drawn to dialectic discussion, as they could not have been to a mere literary study of appreciation; and more and more, as other lines of activity were reduced to the orderliness of a complex society, they turned their genius into intellectual lines. This new Teutonic blood affected Italy as well as England, France and Germany. The papacy and the Church in general had recovered from its period of greatest degradation, and through its struggle with the Holy Roman emperors had acquired new strength and new interests. This

affected intellectual pursuits and stimulated the study of dialectic, theology and canon law. The development of commercial enterprise and municipal government, especially in the Italian cities, stimulated secular interests and secular learning. Meanwhile the Crusade movement had begun. The isolation of European society — which under early feudalism had not really been one society but a series of isolated groups — was broken down. The communication of ideas was stimulated and the intellectual horizon expanded immensely. It was discovered that the "barbarians" of the East had reason to consider, in turn, the people of the West as "barbarians." The attitude of inquiry and of freedom of opinion, which belonged to the East, began to affect the West. This contact with the East and with Saracen learning, not only brought to Europe a knowledge of Arabic culture and science, but it also furnished in the thirteenth century a completer knowledge of Aristotle and of Greek philosophy.

New intellectual interests

These influences combined in varying proportions: no two universities were founded by the concurrence of exactly the same circumstances. Each had some causes of origin peculiar to itself and all the earliest ones were, in reality, schools where one or two special studies were pursued.

No uniformity in causes of origin of various universities

THE FOUNDING OF THE UNIVERSITIES. — In southern Italy, where the contact with the Saracens, the Normans, and the old population of Greek origin was intimate, and where a more direct acquaintance with Greek literature was preserved, there had grown up, in connection with the monastery at Salerno, an interest in the study and practice of medicine. The work and teachings of the monks along these lines were stimulated by the first Crusade and the fame of this school was spread abroad by the returning knights. Under the shadow of the monastic influence there grew up a school for the teaching of medicine, which in a way became the first university. In 1224 the school was united with that of the neighboring city of Naples and chartered by Frederick II as the University of Naples.

Salerno

In the northern Italian cities, struggling as they were with the German emperor for their rights, a new and vital interest grew up in Roman law. The emperor based most of his claims to authority upon the rights of the old Roman emperors; the cities sought to check these claims by a knowledge of charters, of edicts, and of legal limitations that had long been forgotten. There grew up in several of these cities schools for the study of law. That at Bologna was made famous by the greatest of these early teachers, Irnerius (1067–c. 1138), in the same manner that Paris had been raised to distinction by Abelard, and large numbers of students collected here.

Bologna

These bodies of students and teachers were given privileges in the form of a written document from emperor or pope, which became the charter or charters of the institution. It was only much later that an institution was organized by conferring on it outright all desired privileges. At Bologna the first charter was given by Emperor Frederick I, in 1158. Paris received its first recognition from Louis VII in 1180 and was recognized by the pope about the same time. Its full recognition came in 1200. At Oxford and Cambridge the date of the formal recognition by charter is yet more difficult to determine, but it was somewhat later. In all these cases the large groups of students and teachers had existed for some time previous to charter organization, and schools had existed under monastic or Church control in all these centers for an indefinite period.

Paris

Chartered institutions, that is those possessing special privileges, quickly came to exert peculiar influence and were rapidly multiplied. During the thirteenth century nineteen of these institutions were created by popes and monarchs; during the fourteenth, twenty-five more were added; and during the fifteenth, thirty more.

Numbers

STRUCTURE AND ORGANIZATION OF UNIVERSITIES. — Other features of the universities that distinguished them from previous schools were their government, democratic in its nature; their location in centers of population rather than in

remote spots, such as those sought by the monasteries; and their special privileges, legal and pecuniary.

Privileges of Universities. — In general, these charters conferred upon all masters and students, and even upon their attendants, the privileges of the clergy. Such privileges exempted students from official service; from military service, except under specific limitations (*e.g.* at Paris only when the enemy were within five leagues of the city wall); from taxation, especially the petty local exactions; from contributions, etc. One of the most important of these privileges was that of internal jurisdiction. Just as the clergy had obtained the right of trying their own members in all civil and many criminal cases, so in turn the universities developed much the same power over their own members and their adherents. The civil, or at least police jurisdiction, which the German university yet exercises over its student members, and the special favor of a privileged standard of conduct which the American college student claims, are survivals of this once extended right. The other important privilege of universities is that of granting the degree, which was merely the license to teach. Previous to this time this privilege had been granted only by the Church through the archbishop, the bishop or one of their subordinate officers; and thus the Church had controlled the method and the content of teaching.

Universities given the privileges of the Church;

of jurisdiction over own members;

of granting license to teach

These privileges possessed a sanction not granted by charter but developed by usage, known as *cessatio*, the right of "striking" or of moving the university, if its privileges were infringed. Thus the importance of Oxford dates from a migration from Paris in 1229; the importance of Cambridge from a similar disturbance at Oxford in 1209.

The Nations and the University. — These privileges had to be conferred upon more definite bodies of people than the *studium generale*. The most natural division of these heterogeneous masses of students and teachers, drawn from all over Europe at a time when territorial lines were very indefinite and national

Division of student and teaching body into nations

distinctions were more genetic than territorial and political, was that of language and kinship. Hence students and masters organized into groups according to their national affiliations. And it was to these *nations* singly, or more often in group organization, that privileges were granted. Such a body was called *universitas magistrorum et scholarium*. The term *universitas* means primarily "all of us," and had the general significance of our word *corporation* or *association* or *company*. In time, but not until the fourteenth century, this one word came to be used instead of the previous more general term.

Amalgamation of the nations

At Paris there were four nations, the French, the Normans, the Picards, and the English (after the Hundred Years' War began, the last was changed to German). In Bologna there were at first four universities; then two, the Cisalpine, consisting of seventeen nations, and the Transalpine, of eighteen. Finally, all were amalgamated into one organization.

The faculties a later development

The Faculties. — The organization of the nations had to do with conduct, civil rights, and ecclesiastical jurisdiction. It had little direct reference to the studies. In time, however, it became necessary to regulate studies and methods, — in fact, scholastic procedure in general. The faculties were therefore a somewhat later development than the nations. The term itself, quite as indefinite as the term *university*, simply meant *knowledge* or *science;* but in time it was applied to a department of study, as faculty of law, theology, arts, etc., and finally to the body of men, previously termed *consortum magistrorum*, that had control of a particular department of study. This body was originally composed of all who had taken their degree, and as it developed, obtained control of the granting of degrees.

The rector and council

Governing Body and Other Officials. — The nations elected, usually annually, a procurator or councilor; each faculty, a dean; and these representatives together, a rector of the university. This official head of the university possessed only delegated power, was usually elected annually, and in the South

was usually a student. By the sixteenth century, these head officials had become for the most part political appointees, and the nations had long since lost all material authority.

DEGREES. —The nature of the degree and of the entire work of the university can best be understood by a comparison with some simpler aspects of mediæval life which the student life paralleled. Such, for example, is the chivalric education, with its seven years of training as a page and seven years as a squire preceding the acquirement of full knighthood (p. 149). A similar parallel can be found in the making of a master in any craft or mercantile pursuit, where the youth had first to serve seven years as an apprentice; then as a journeyman he served under a master for a further period, during which he received a wage; finally, he became a master possessing full rights in the guild. In quite a similar way the youth of thirteen or fourteen who wished to study the liberal arts, or to prepare himself for teaching, was obliged when he appeared at the university to enroll himself with a master who was, for the time-being, responsible for him. Here he served an apprenticeship of from three to seven years, until he learned to read the ordinary texts in grammar, rhetoric and logic, and to define the words and determine the meaning of phrases, and the use of terms and classifications. When he could define and determine, he

The university system compared with the guild system



A YOUTHFUL MASTER OF ARTS AND HIS PUPILS

A Woodcut of the Fifteenth Century

The educational processes

continued his studies and at the same time, as a journeyman workman, gave instruction under the direction of a master to the younger boys. After this further period of study, in which he familiarized himself with the required texts and learned to carry on logical disputations, he was permitted to demonstrate this ability, as a journeyman workman makes a "masterpiece," by defending in public a thesis. His opponents were the members of the faculty, or those who already possessed the degree, since these were the "masters" of the Arts which he professed. This having been done successfully, he was given the degree, the licentiate, the mastership, the doctorate — whatever it might be called. Master, doctor, professor, were synonymous terms in the early university period. Such a degree signified that the possessor was able to dispute as well as to define and determine, and authorized him to teach publicly, *i.e.* admitted him to the "guild" of teachers. He was now on a parity with other members of the faculty, and could teach in the free competition into which they all entered.

After submitting a "masterpiece" is made "a master of arts"

The preliminary degree, the baccalaureate, was in the beginning simply formal admission to candidacy for the license, and was not a degree in itself. During the fifteenth century it became a distinct stage in the educational process and hence quite well defined as a minor degree.

The baccalaureate only a preliminary degree

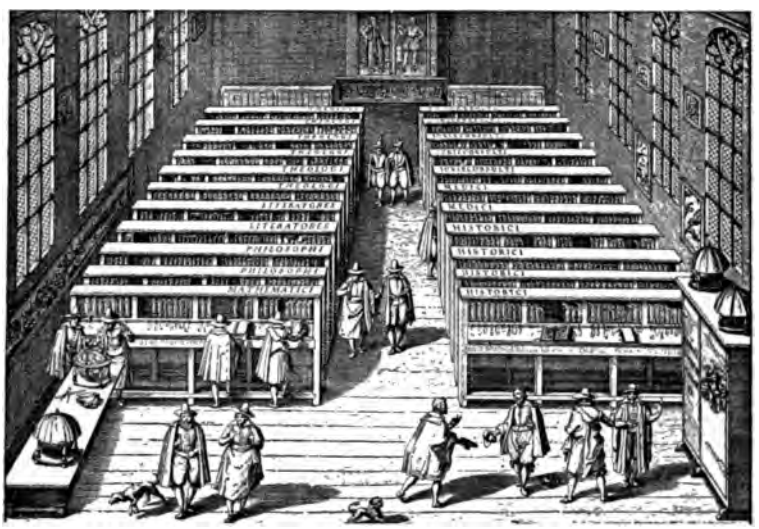
THE METHODS AND CONTENT OF UNIVERSITY STUDIES have been discussed under scholasticism. After the opening of the thirteenth century, the course of study was determined by papal bull or university statute. In the school of arts were used the grammatical works of Priscian, a work on grammatical figures by Donatus, the logical works of Aristotle given through Porphyry and Boethius. The *Categories* and the *de Interpretatione* of Aristotle, and the *Isagoge* of Porphyry, from which originated the realistic-nominalistic controversy, were known in the translations of Boethius. The remainder of the *Organon* was known only through summaries or other writings of Boethius. To these latter the greatest attention was given, and much time

Scholastic method

Texts-books chiefly in logic



A MEDIAEVAL UNIVERSITY. LECTURE ON THEOLOGY BY ALBERTUS MAGNUS (1193–1280)



LIBRARY OF THE UNIVERSITY OF LEYDEN (1610)



in addition to the long hours in the lecture room was spent in listening to endless disputations or participating in them. At Paris the statutes of 1215 introduced the *Ethics* of Aristotle, and in 1255 his *Physics*, *Metaphysics* and his treatise *On the Soul* were added. These works of Aristotle, previously interdicted at Paris, had been introduced somewhat earlier in other universities. Elsewhere some other introductory works on logic might be substituted. Up to the middle of the fifteenth century, Aristotle controlled the work of the universities. The study of logic dominated the trivium, and rhetoric was given no attention whatever. The study of geometry and astronomy had made some progress, especially in the Italian universities and in the University of Vienna. The work of the professional faculties consisted, likewise, in the study of a few fundamental texts together with innumerable commentaries upon them.

Dominance of Aristotle

The early university education was wholly an education of books, with a very limited selection in each particular field, but still those that were looked upon as furnishing in the written word absolute and ultimate authority. It was directed much more to the mastery of form and the development of the power of formal speech, especially argumentation, than to the acquisition of knowledge, or to the pursuit of truth in the widest sense, or even to familiarizing the student with those literary sources of knowledge which, though lying within his grasp, were outside the pale of orthodox ecclesiastical approval.

An education of books,

but did develop efficiency in debate

THE INFLUENCE OF EARLY UNIVERSITIES. — The political influence of the universities, both direct and indirect, was marked. They furnished the first example of purely democratic organization. Freedom of discussion concerning political as well as ecclesiastical and theological matters here found its first home. While for the most part the sympathies of the universities would naturally be with the privileged classes, whose privileges they themselves had obtained, yet the university

Political influence

often became the mouthpiece of the common people in opposition to king or priestcraft.

Gave some protection to freedom of thought and of speech

The right of the university to a voice in the government, to a seat in the parliaments of France, England, Scotland, is a recognition of this political authority and of the fact that the university had become a great "estate." Questions of state and of controversy between state and Church, such as the divorces of Henry VIII of England and of Philip of France, were submitted to the arbitration of the universities. The university often spoke for the nation in opposition to the papacy. In one instance the king of France and the university compelled the pope publicly to recant his views and to apologize, and in another secured the deposition of the head of the Church. Largely through the influence of the University of Paris the great schism in the papacy and the "Babylonian Captivity" were ended. In a similar way the university became an authority in the settlement of disputed doctrinal points, and in the determination of questions of heresy. In holding this balance of power, it tempered the extreme views of the papacy and especially of the papal representatives, — the friar bodies, — and thus mitigated, if it did not entirely eliminate, the operations of the inquisition in the north of Europe.

A stimulus to the intellectual life

But it was in regard to the intellectual life, restricted, formal and meager though this was, that the greatest influence of the university was exerted. Intellectual interests were now crystallized into a great institution, recognized as almost on a parity with Church, state and nobility. This interest and its resulting institutional organization were so reduced by the fifteenth century as to possess little more than formal life. Yet even then the university provided a retreat for the rare genius who kept alive the spark of real intellectual life and so maintained a home for the new intellectual spirit when it did come. However hostile it may have been during these centuries to innovation, to radicalism and to rationalism, yet in preserving the spirit of speculation the university kept alive the spirit of inquiry.

And out of it came such men as Roger Bacon, Dante, Petrarch, Wycliffe, Huss, Copernicus, — the men who brought the modern spirit.

§ 6. CHIVALRY. EDUCATION AS A SOCIAL DISCIPLINE

NATURE AND ORIGIN OF CHIVALRY. — Chivalry represents the organization within secular society of those recognizing the highest social ideals and attempting to realize them through definitely established forms and customs. Chivalry was to the secular life what monasticism was to the religious life. It did not necessarily include all of the nobility, but only those who definitely accepted the highest obligations of a social character. Knighthood and the chivalric character were not inherited as nobility was. The institution of chivalry represented the education which secular society received, and the training in knightly ideals and activities formed the only education of the members of the nobility. Like all education during the Middle Ages, this education was a discipline, both for the individual and for the social class; but the intellectual element in it was even slighter than in monasticism.

Chivalry was an organization of an ideal secular society corresponding to monasticism in the religious life

The origin of chivalry is found in the character and customs of the Teutons, in the structure of later Roman society, and in the Christian Church. The Church directed the energies of the Teutons into particular channels and discovered to them in many of the teachings of Christianity a bond of sympathy between the Church and the worthier traits of character of the barbarians.

Origin found in nature of Teutons, in survivals of Roman social structure, and in Christian ideals

THE IDEALS OF CHIVALRY form a very different conception of personal virtue from that of classical society and involve some radical modifications of the elements of the early Christian ideal. In speaking of the leader of the first Crusade, Cornish thus describes the knightly character, "We observe in them reckless courage, personal pride, and self-respect, courteous observance of the word of honor, if plighted according to certain forms, disregard of all personal advantage except military glory; and, on the other hand, savage ferocity, de-

Strength and weakness of these ideals

liberate cruelty, anger indulged in almost to the point of madness, extravagant display, childish wastefulness, want of military discipline, want of good faith alike to Christians and infidels." Under chivalry these ideals, constituting the character of a gentleman, were very much more definitely formulated than in modern ages. As thus definitely organized, the knight summed up all duties of life under his obligations to God, to his lord, and to his lady.

Dignified service and obedience

Chivalry performed for the secular life a service identical with that performed by monasticism for the religious life, in that it dignified the ideal of service and held up to a rude and violent people the ideal of obedience to rule and to personal command. While this organization of society had its demerits, sanctioning or fostering a contempt for inferiors and being a regulation rather than an eradication of evil, it is difficult to overestimate its value in ameliorating the crudities and the barbarities of the life of the times through the new attitude toward service and obedience.

An education of discipline

Reverence for superiors, a consideration for inferiors, a gentleness toward the weak and the defenseless, a courtesy toward all women, were further amplifications of the ideal of service and obedience. A greater gentleness of manner, a consideration for others in deed and speech, in fact, a general amelioration of manners, followed throughout all classes of society. The general ideals of chivalry, its effect upon society and the individual, and, by reference, the character of the education it demanded are indicated in this summary from Cornish: "Chivalry taught the world the duty of noble service willingly rendered. It upheld courage and enterprise in obedience to rule, it consecrated military powers to the service of the Church, glorified the virtues of liberality, good faith, unselfishness and courtesy, and, above all, courtesy to women. Against these may be set the vices of pride, love of bloodshed, contempt of inferiors, and loose manners. Chivalry was an imperfect discipline, but it was a discipline, and one fit for the times."

THE EDUCATIONAL SYSTEM OF CHIVALRY. — The education of a knight was divided into two distinct periods: that of the page, which covered approximately the period from the seventh to the fourteenth year, and that of the squire, from the fourteenth to the twenty-first year approximately. Every feudal lord and the more prominent clerics as well, maintained a court that was attended by the sons and frequently by the daughters of the subordinate gentry of his realm. It was the usual custom for all ranks of chivalry, probably growing out of the earlier custom of taking hostages, to send their children from home. In some instances, though very rarely, schools were established. For the most part the training was given through a definitely organized household or court service.

Seven years training for the page; seven years for squire

The page began with simple service about the castle, especially in attendance upon the ladies. As he grew older he waited upon the table. This duty he continued to perform as a squire; and in addition to these, he was called upon for a great variety of personal services to his lord. All culminated in the office of "squire of the body," who was the immediate personal attendant upon the lord in battle and in tournament.

Services performed by page and squire

The page and the squire were supposed to learn "the rudiments of love, of war and of religion." The "rudiments of love" were courtesy, kindliness, gentleness, pleasant demeanor, generosity, knowledge of the very elaborate formalities of conduct, good manners, pleasant speech and the ability to turn a rhyme. Love was to protect the youth from the evils of anger, envy, sloth, gluttony and excesses of all kinds. The rudiments of love were to be acquired through service to the ladies and through the teachings of the minstrels. It often happened that to these accomplishments the squire added the ability to play the harp and to sing. In particular he was expected to devote himself to the service and the amusement of the ladies of the court. He participated in their hunting and hawking expeditions, in the entertainment of the court, perhaps by the reading of chivalric literature and by the game of chess.

Meaning of "the rudiments of war, love and religion"

The justing in the tournament was the chief preparation for war; in time it became a substitute. For this the youth was trained from his earliest years in the ability to ride, to handle the shield, to wield the sword, to tilt with the lance, to cast the javelin, to exercise in armor, — in fact, in every martial exercise. Tilting at a revolving target, either in boats or on horseback, was much practiced. Hunting and hawking not only formed the chief amusements of the nobility, but also furnished training for warfare as well. This training in the rudiments of war developed an ability to withstand all hardships of life in the open air, an indifference to pain, an ability to withstand hunger and fatigue.

Their military training

Religious significance

As the period for knighting drew nigh, the religious aspects of chivalry were emphasized. The prospective knight must go through ceremonies of purification; his sword was blessed by a priest, and in the initiation, frequently if not usually held in a church, he swore "to defend the Church, to attack the wicked, to respect the priesthood, to protect women and the poor, to preserve the country in tranquillity, and to shed his blood in behalf of his brethren."

Absence of the intellectual element

In all of this training there was little of the intellectual. In the earlier centuries of chivalry it was an effeminacy to know how to write; but in the later centuries the knowledge of reading and writing among both men and women of the upper classes was quite common. Knowledge of the French language — the language of chivalry — was quite necessary. Except for this and for the song and music of the minstrels, there was no literary element in this type of education.

§ 7. EDUCATION AT THE CLOSE OF THE MIDDLE AGES

The later Middle Ages not "dark ages"

THE RENAISSANCE OF THE THIRTEENTH CENTURY. — From the previous consideration of scholasticism and the universities, it will be seen that the later Middle Ages were far from being "dark ages," that the intellectual interests of



THE TITLE PAGE OF A FIFTEENTH CENTURY ENCYCLOPEDIA OR TEXT BOOK

The title reads : *Epitome of all Philosophy, otherwise The Philosophical Pearl, treating of all Known Things; with Additions, such as are not to be found elsewhere* In the lower foreground, within the circle, are the muses of the seven liberal arts : above is the three-headed muse of philosophy. Natural philosophy is represented in the lower left by Aristotle, moral philosophy in the lower right by Seneca, rational philosophy above the circle by the Church Fathers, Augustine, Gregory, Jerome and Ambrose



these centuries were numerous and intense, and that the educational activities were great. A further consideration of education during this period is necessary in order to understand more adequately the education of the Middle Ages and also to understand that transition to modern intellectual life which is called the Renaissance. The latter fifteenth and the early sixteenth centuries are usually considered to mark the intellectual transition from mediæval to modern times. But as will be indicated in the next chapter this transition, educationally, related chiefly to the spirit and the content of education. A preparation for this transition, in fact a leading cause of it, was to be found in the intellectual activity and educational advance of the thirteenth and ~~fourteenth~~ centuries. During these centuries there existed a place in the social organization for an intellectual life, that exerted profound influence, permitted much freedom, had definite character, possessed peculiar merits, and developed an appropriate educational system.

Educational and intellectual changes during the thirteenth century

Moreover, with the thirteenth century, the intellectual interests and control passed from the monasteries to the schools. While nominally ecclesiastical, the spirit of the schools was chiefly secular. The leadership passed from Churchmen to doctors, who were preëminently logicians and hence inclined to rationalism. Intellectual interests which began by being wholly religious or theological in character ended by being almost wholly philosophical and logical. The dominant conception of education remained the disciplinary one. The function of schooling was to develop ability to state, to interpret, to define, to argue, concerning abstract conceptions. In respect to its outcome, however deep or intense its influence might be, this education was peculiarly narrow. Yet on the other hand, intellectual interests received general recognition. Schools of all grades became abundant. The science of the ancients within this limited field became well known. The educational world needed only the development of the new spirit, which came with the fifteenth and the sixteenth century, to become modern.

The unity of life during the Middle Ages

A leading characteristic of the Middle Ages was its unity. There was an internal unity possessed by the intellectual life itself. There was an external unity of the intellectual life in connection with the religious, the ecclesiastical, the artistic, the political, the economical and the social aspects of life. This unity was found in the dominant religious thought. The thirteenth century possessed a unity of life and of ideas beyond any other century in history. It was the last century in which this peculiar unified life of the Middle Ages dominated. Realism was the philosophy, not only of its religion, but also of its life. This unifying element was embodied in the dominance of the *ideal* — of ideals as these express some form of authority. The Church expressed the absolute authority of the religious life. The scholastic theology expressed the same absolutism in religious belief. The Holy Roman Empire embodied this ideal politically, the feudal system socially, the guild system economically. So also in education, the universities on the institutional side and scholasticism on the intellectual side expressed the dominance of the same absolutism of authority.

Control of ideals

Attempt to disrupt this unity during the fourteenth and fifteenth centuries

As long as there was a widespread and general attempt to preserve this unity of life, — that is, during the fourteenth and fifteenth centuries, — the spirit of the Middle Ages persisted. Nevertheless, there were continual eruptions of individualism and attempts to overthrow this absolutism, so that during these centuries the perfection and beauty of the system as seen in the thirteenth century no longer prevailed.

Final triumph of individualism during the Renaissance period

In the attempt to suppress these expressions of individuality, the harshness as well as the defects of absolutism, its growing formalism, and its final lifelessness became apparent. It was not until the later fifteenth century that this effort to supplant the dominance of authority by the general sway of individual judgment took place in what is known, *par excellence*, as the Renaissance. Critical and destructive tendencies then came to dominate.

The chief means for the expression of new and consequently

somewhat heterodox interests was through the new vernacular literatures. With most of the Teutonic peoples, and the Celtic as well, there is a rudimentary literature in the vernacular covering the entire Middle Ages. With the twelfth century, fostered by chivalry and by the Crusade movement with accompanying motives, there was developed in court and palace, by bard and minstrel, a wholly new literature. This literature, technically called the Middle English, the Middle German, etc., was an outgrowth similar to that of the troubadours of southern and the trouvères of northern France. The amorous tale, knightly adventure, daring just or brilliant tournament, expressed alike the interest of the court and the laity's dislike and suspicion of motive and conduct of monk and priest. In its expression of new interests and use of new forms, this literature formed the beginning of modern literature, and at the same time was a force making for the overthrow of the dominance of authority and a channel for the expression of heretical views.

The vernacular languages and literatures a chief means of expressing individual interests

Meanwhile there are a few aspects of education during these last mediæval centuries, besides the universities, that demand brief notice.

THE FRIARS OR THE MENDICANT ORDERS came into general control of higher education by the middle of the thirteenth century. The Franciscans, or Gray Friars, were founded in 1212 and the Dominicans, or Black Friars, in 1216. The aim of the mendicants, differing from that of the earlier orders, was to save souls, to control people and to build up the Church. Consequently, they sought to control education.

The Franciscans (1212) and the Dominicans (1216)

The Dominicans, or preaching friars, especially sought to control leaders of thought and of the Church, and hence to establish themselves at the universities. They soon had a convent in every university town. Aiming first to "capture" bachelor or master, they soon sought to control the teaching. The dominance of Thomas Aquinas indicates a success of this ambition in regard to theology, at least. The fact that these

became positive educational factors

bodies were preëminently preaching orders, as previous orders had not been, called for a higher degree of intelligence and for more definite training. Hence these friars became educators in a double sense; first, in that they gave a more general education to all their members than any previous monastic order; second, in that, as preachers, they were teachers of the people and preëminently preachers of doctrine.

Greek learning flourished among the Saracens during the dark ages of the West

INFLUENCE OF SARACEN LEARNING. — The study of Grecian philosophy, on account of its heretical influences, had been suppressed in the Eastern Church by the sixth century and found a home among the Syrians and especially the Nestorian sect of the Christians in the region of western Asia. Here it came in contact with the Arabs and, with the Abbasid dynasty (f. 750 A.D.), was fostered in the capitals of the East. Learned Nestorians were summoned to the Saracen courts; translations into Arabic from the Syriac or the original Greek were made; mathematics and the natural sciences, more especially the medical sciences, were fostered. During the tenth century philosophical interests were similarly developed, especially under the leadership of Avicenna (980–1037). At the time, when the Christian schools of both eastern and western Europe were falling into decay, the schools of Bagdad, Basra, Kufa and other Saracen cities were growing into splendid activity and great renown.

Saracen learning and schools in Spain

In Spain, especially, centering in the school of Cordova, from the tenth century on, this learning received development and many brilliant practical applications. Throughout their Western caliphates, the Saracens established libraries, higher schools similar to universities and, in connection with the mosques in many cities, schools for the instruction of children. While Christian Europe was enforcing as a religious belief the idea that the world was flat, the Moors were teaching geography from globes. When the Christians finally conquered the Mohammedans, they turned their astronomical observatories into belfries for want of any other use. From these Arabs came, in the tenth or eleventh century, the knowledge of Hindu

notation as a substitute for the cumbersome Roman method. Knowledge of algebra, as well as of advanced arithmetical processes, came from a similar source. In medicine, in surgery, in pharmacy, in astronomy, in physiology, they added much that is now considered fundamental. They explained the refraction of light, gravity, capillary attraction and twilight; they determined the height of the atmosphere, the weight of air, the specific gravity of bodies; they constructed various astronomical tables, and determined corrections for parallax and for refraction; they invented the pendulum clock; in commerce, in geographical explorations, in navigation, in improvements in all the arts of life, their culture was far ahead of that of the Europeans; they introduced the use of rice, sugar and cotton, and the cultivation of silk; they made Europe familiar with the use of the compass, of gunpowder and of cannon. Thus in many ways the Arab culture served as an educational agency to bring the civilization of the West to a higher level.

Scientific and practical knowledge introduced by the Saracens into Europe

But it is with its influence on the schools that we are more directly concerned. By the twelfth century all intellectual vitality had been crushed out in the East, while it was in its most flourishing condition in the West. In the middle of the twelfth century Raymund, archbishop of Toledo, commanded a Jewish scholar to translate the leading works on Arabic philosophy into Castilian; by monks it was translated thence into Latin. Shortly after this the Emperor Frederick II had the commentaries of Averroës and other Aristotelian writings translated. Only a brief period intervened when, as a result of the Latin conquest of Constantinople, 1204, the Greek version of Aristotle became known and direct translations were made. By the thirteenth century rigid and narrow orthodoxy had triumphed in Saracen Spain. Aristotelianism and Averroëism were driven out from their previously flourishing seats to find a new home among the Jewish philosophers and in the Christian universities.

Decline of Saracen learning and its transfer to the Christians

NEW TYPES OF SCHOOLS. —The later Middle Ages wer-

well supplied with schools. Not only secondary but elementary education was provided in the fourteenth and fifteenth centuries in a more general way than ever before. Although monastic schools never recovered their importance after the Renaissance of the thirteenth century, cathedral schools grew into new prominence in the early university period, and were insufficient for the demand. Consequently, several new types of schools became prominent.

Chantry schools

The most numerous of these new institutions were the *chantry schools*. A chantry foundation — the gift of property to support a priest in return for prayers for the souls of the benefactor and of his family or for certain stipulated purposes — was the most common form of benefactions to the Church during the later Middle Ages. Thus it happened that foundations for priests existed beyond all demand for parochial service. As the religious services required by the foundations could occupy but a small portion of time, it became customary to stipulate that such priests should teach the children of the community. The regulations of these foundations present the greatest variations. Some provide for a small number of children, some for all comers; some provide that instruction shall be gratis, some permit a fee; some indicate that the merest rudiments were taught, others stipulate that instruction shall be given in grammar and the higher branches.

Guild schools

Another type of school, more free from ecclesiastical control, was the guild school. It was very common for the merchant and craft guilds to support priests for the performance of all sorts of religious services for their members. Such a priest saw the children of the guild members received into the world with proper religious rites and saw them decently out; he celebrated for them all the sacraments; frequently he kept school. Some guilds established schools of great repute, which have had long histories. The Merchant Taylors' School of London is probably the most notable. Ordinarily the school was only an elementary one, though it often was also a grammar school for the children

of the guild members or for others. Such schools gave instruction in other subjects than Latin grammar and frequently, even before the Renaissance, came to give instruction through the vernacular.

Burgher or town school

With the coalescence of the guild organization and the early municipal government, these schools, along with many of the parish schools mentioned above, became in many communities the burgher schools. Such schools were controlled and supported by secular authorities and in the content of their school work better represented the economic interests and demands of the citizens. They were often taught by priests, though lay teachers became more and more numerous. In a similar way private schools, usually of most elementary character, even more responsive to new economic and social demands, sprang up. However irregular these private schools were, they yet contributed to the development of independent town schools. Clerical inspection was still almost universal, and the Church through the *scholasticus* or some other episcopal officer, or even through the parish priest, sought to extend its jurisdiction over both private and guild schools. The attendance upon these schools under Church control included both local pupils and the numerous wandering students of the time. The custom of living by begging and of wandering from institution to institution, fostered by monk and friar, spread from the university student downward until it included the so-called A B C shooter as well.

Private schools

The wandering scholars

Concerning this entire subject of secular schools previous to the Reformation, there is a question concerning the interpretation of historical material. Yet it is evident that preparation had been made before the Reformation for the secularization of education that was to follow.

SUMMARY

The dominant influence during the Middle Ages was the Christian religion. Christianity offered a solution of the Greek social and educational problem in the principle of Christian love or charity, which harmonized

the individual and the social factors. This solution was found in the moral instead of the intellectual nature of man, and therefore furnished an ideal possible of attainment by all. Education became dominantly moral and hence a discipline or a preparatory training. The Christian Church was at first friendly toward the classical learning. But with the nominal inclusion of the secular world within the limits of the Church, it became necessary to emphasize the moral to the exclusion of the intellectual and literary elements in education. Monasticism organized this moral education most minutely. Monasticism required some knowledge of reading and writing, led to the copying of manuscripts, the preservation of literature, the writing of chronicles and a few other types of literature, and promoted the organization of schools. The later monastic orders were distinctly educational in purpose. With the revival of interest in theological questions, logic and philosophy were brought to the support of religion. Scholasticism was the result. The world of knowledge was expanded and systematized into a unified whole. Universities sprang up in great numbers and fostered the intellectual life. Meanwhile an education for secular society, now organized under the feudal system, had been elaborated. This was the chivalric education, which organized the conception of education as discipline into the training of page and squire as a preparation to the full activities of knighthood. After the close of the thirteenth century the new individualistic interests found expression through the vernacular literatures, through commerce, through the new intellectual interests, through the influence of the Saracens and friars, and through new types of schools. The tendency of all of these changes was to destroy the unity of thought and life so characteristic of the Middle Ages.



THE BEGGING STUDENTS OF THE MIDDLE AGES. NUREMBERG, SIXTEENTH CENTURY

On the baskets are pictures of the patron saints of the respective schools.

Chronological Table of Educational Development from the Fourteenth to the Seventeenth Century

Political Events and Personages	Literary Men and Scientists	Religious Events and Personages	Educators and Educational Writings	Educational Events
1300. 1339–1453. One Hund. Yrs.' War. Edward III of Eng. 1327–1377. 1347. Rienzi. 1347-9. Black Death. 1356. Poitiers. 1356. The Seven Electors established by charter. 1350–1500. Hansa League.	Marco Polo 1234–1324 Dante . 1265–1321 Petrarch 1304–1374 Boccaccio 1313–1375 Chaucer 1328–1400	1302. Philip of France triumphs over Boniface. 1312. Suppression of Templars. John Tauler 1290–1361 Wycliffe 1324–1384 1309–1377. Babylonian Captivity. 1387–1417. The Great Schism. 1384. Breth. Com. Life f.	William of Occam 1270–1347 Jean Gerson 1363–1429 Paulus Vergerius 1349–1420	1343. U. Pisa f. 1347. U. Prague f. 1349. U. Florence f. 1362. Use of Eng. est. in law courts. 1365. U. Vienna f. 1384. School at Daventer founded. 1386. U. Heidelberg f. 1387. Winchester f. 1392. U. Erfurt f. 1397–1400. Chrysoloras teaches Greek at Florence.
1400. 1431. Joan of Arc burned. 1453. Fall of Constantinople. 1455–1485. War of Roses. 1474–1509. Ferdinand and Isabella of Spain 1494. Charles VIII of France in Italy. 1498–1515. Italian wars of Louis XI. 1462–1505. Ivan the Great.	Lorenzo Valla 1407–1457 Leonardo Bruni 1369–1444 Pico da Mirandola (1463–1494) and the Platonic Academy. Leonardo da Vinci 1452–1519 Raphael 1485–1520	1414. Council of Constance. 1418. Council of Basle. 1415. John Huss burned. Thomas à Kempis 1380–1472 Savonarola 1452–1498	Vittorino da Feltra 1378–1446 Cosimo de Medici 1389–1446 Wessel 1420–1495 Hegius 1420–1495 Battista Guarino 1434–1460 John Reuchlin 1455–1522 Jacob Wimpfeling 1450–1528 1452. Pope Pius II., *De Liberorum Educatione.* Colet 1456–1519 Linacre 1460–1524 Wm. Lilly 1468–1522	1428. Vitterino establishes school at Mantua. 1440. Eton founded. 1455. First book printed. 1458. Greek taught at Paris. 1460. New learning at Heidelberg. 1494. First chair of "Poetry" in N. Europe (at Erfurt). 1496. Humanism in city schools of Nuremberg.
1500. 1520. Magellan circumnavigates the globe. 1524. Peasants' War. Henry VIII 1509–1547 1533. Reb. of Geneva. Edward VI 1547–1553 Elizabeth 1558 1603 1588. Spanish Armada.	Erasmus 1457–1536 Michael Angelo 1475–1564 Ariosto 1474–1533 Copernicus 1473–1543 Tycho-Brahé 1546–1601 Shakespeare 1564–1616 Kepler 1571–1630	Luther . 1483–1546 1517. Luther's Theses. 1521. Diet at Worms. 1535. Suppression of monasteries in England. 1540. Jesuit Order founded. 1538. English Act of Supremacy. 1545–1563. Council of Trent. Zwingli 1484–1531 Knox . 1505–1572 Calvin . 1509–1564 1542. Inquisition introduced. 1553. Servetus burned. 1555. Peace of Augsburg. 1572. St. Bartholomew's massacre. 1598. Edict of Nantes.	Erasmus 1467–1536 Thomas More 1478–1535 Rabelais 1483–1553 Melanchthon 1497–1560 Trotzendorf 1490–1556 Vives . 1492–1540 Sturm 1507–1589 Ascham 1515–1568 Montaigne 1533–1592 Peter Ramus 1515–1572 Michael Neander 1525–1595 1571. Ascham's *Schoolmaster.* 1531. Elyot's *Governour*, first work in Eng. on education. Mulcaster 1531–1611 Mulcaster's *Positions* 1561	1502. University of Wittemberg founded. 1510–1513. Erasmus teaches Greek at Cambridge. 1510. St. Paul's f. 1519. Erfurt and Leipzig reorganized on humanistic basis. 1524. First Protestant City Schools. 1524. Luther's Address to German Cities. 1526. Melanchthon opens gymnasium at Nuremberg. 1528. Saxony School Plan. 1537. Sturm's School founded. 1540. Jesuit order f. 1559. Würtemberg School Plan; first sys. of Pub. Sch. 1599. Final form of Jesuit *Ratio Studiorum.*

CHAPTER VI

THE RENAISSANCE AND HUMANISTIC EDUCATION

The Renaissance was the protest of individualism against authority in intellectual and social aspects of life.

WHAT THE RENAISSANCE WAS. — The classical Renaissance of the fifteenth and sixteenth centuries was primarily an intellectual, æsthetic and social movement. As such it caused profound changes in every phase of educational thought and practice. The logically perfect systems of thought, life and education evolved during the Middle Ages, as the products of monasticism, chivalry or scholasticism, were unstable because of their very perfection. In their completeness they permitted no change, no progress. They made no provision for the individual. On the contrary, the essential feature of the Renaissance was individualism. The systems of thought constructed by the Schoolmen, and the social structures of monasticism and chivalry, were erected as palaces in which to live a perfect life. They proved to be but prisons. Hardly had the architects completed the edifice than those for whom they were built overthrew them as symbols of their slavery. Yet from the débris of these edifices the few succeeding generations laid the foundation of modern thought and life. Thus the unity of mediæval thought and life ultimately broke up into the multiple interests and activities characteristic of modern times.

New interests: (1) the world of ancient Greeks and Romans

Though the activities of the Renaissance were most varied, they may be summed up in three general tendencies, representing three great interests almost unknown during the Middle Ages. The first of these new worlds was the real life of the past. The Greeks and Romans had possessed more varied interests and consequently a wider knowledge of life and of its possibilities than had the people of the Middle Ages. The classic

ages had expressed this interest by means of a literature and an art incomparably superior to any produced during the intervening centuries, which had been indifferent to them. The second of these worlds was the subjective world of emotions, — of the joy of living, of the contemplative pleasures and satisfactions of this life, and of the appreciation of the beautiful. The interest in introspective observation and analysis was now from the æsthetic and human point of view rather than from the philosophical and religious. The means of entrance to such a world as this is through the fullest participation in the activities and interests of the life around one. The purpose of such a life is self-culture and improvement. The outcome of it is literature and art. Of this world mediæval thought had been wholly ignorant. The third of these worlds was that of physical nature. This realm was not only unknown to the people of the mediæval centuries, but any study of it had been considered ignoble and debasing in its influence on man.

(2) the subjective world of emotions

(3) the natural world

The first of these great world discoveries led to a wider and more intensive study of the Latin and Greek languages, and to a devotion to the classic literature of both languages. Then followed a search for the manuscript remains of this literature until substantially all that we possess to-day had been brought to light. The passion for the collection of these manuscripts led to their multiplication, and finally through the discovery of printing to their general dissemination. The mistake should not be made, however, of confusing the means of this Renaissance with its cause or with its end. The recovery of the classical literature was not the cause, for that lies far deeper and more remote in the whole movement of history and of thought. Not even in the case of the few notable leaders, such as Petrarch, who were possessed by a consuming passion for the recovery of the works of the ancients, was this the dominant purpose. These books were merely means to that advancement in knowledge and that breadth of view and of experience which made these men the earlier leaders of this movement.

These new interests led to study of classical literatures,

to æsthetic appreciation and artistic creation,

Through the study of these literatures, a new interest in all which appeals to the imagination and to the heart was created. While the appreciation of the beautiful and the emotional in literary form was the most general, yet æsthetic appreciation and artistic endeavor in every form became more prevalent than at any other period in history.

Introspective analysis of the emotional life led to the production of art and literature, including poetry, the drama and romance; to an interest in new motives as revealed in history and in contemporary life; and consequently to the formulation of the historical and social sciences. While at first this development seemed to be through the exclusion of the previously absorbing religious interest, yet during the sixteenth century thought life again became dominantly religious, but on a humanistic rather than on a scholastic basis.

and to invention and discoveries

Finally through the beliefs and methods of the Greeks, the Renaissance students were led to direct observation and experimentation with natural phenomena. These, in turn, led to geographical discovery and exploration both by land and by sea and to those astronomical discoveries that were to become the basis of modern scientific thought. This naturalistic aspect of the Renaissance led in time to a modification of all thought and connects directly with the work of Bacon and Descartes in the seventeenth century and with the physical and biological investigations of modern science. Thus, in a very true sense, the educational development discussed in the three following chapters are but later phases of Renaissance influence.

The transition was a gradual one

The transition from the old learning to the new was not an abrupt one; clear definition of the new spirit came about very gradually. Even its triumph did not involve the disappearance of the old spirit. Both in educational interests and in those wider ones involving the human intellect and the human spirit, old methods of thought, as well as old ideas and ideals, continued active for many centuries. In fact, they have persisted even to the present day. But the dominant ideal which gave

character to the period soon came to be that developed by the new knowledge.

THE RENAISSANCE IN ITALY. — As the political, religious and intellectual life of the times centered in Italy, so also did the Renaissance movement. The period was the latter half of the fourteenth and all of the fifteenth century. The causes of this movement are discoverable in the influence of the universities and in the intensity of the intellectual activity of the thirteenth century. The personal connecting link is found in Dante (1264–1321), whose spirit was partly mediæval, partly modern.

Influence of the universities; of Dante;

During the later mediæval centuries a knowledge of the Latin classics was not an unknown thing, for the manuscript copies of many of these were in existence. Vergil at least was quite well known. But there was little appreciation of their beauty as literature, little sympathy with the interests of the classical times, and little toleration of the study of these classics, to the detriment of the study of dialectic based upon Aristotle, and of the patristic and scholastic literature in general.

Petrarch as the Representative of the New Spirit. — Against the dominant educational ideas of the times, against scholasticism and Aristotelianism, Petrarch (1304–1374) strove with all his might. With his genius for leadership and his power of stimulating enthusiasm, he created a general interest in the classics in direct opposition to the ordinarily accepted interests of students, of institutions of learning, of the Church and of Churchmen. Petrarch was not alone in this. But he holds a place in the history of education as the first great representative of a new type of intellectual life. To-day, when we can readily obtain a knowledge of the best that has been thought and done without going back to antiquity, it is difficult to realize the importance of this work. At that time there was no vernacular literature to speak of and the human interests of the Greek and Latin literatures had been replaced by the narrow religious and ecclesiastical interests of the Middle Ages. Consequently,

of Petrarch

Significance of this new interest in classical literature

there is no parallel between the importance of the study of Latin and Greek in recent centuries and its importance during these centuries of the Renaissance period.

A means of self-development

The Work of Petrarch and his confrères possessed more than this negative value of protest against the restrictions of mediævalism. It had also the positive merit of emphasizing the value of the opportunities of this life for self-development through varied experiences. Many such activities or sources of experience had been wholly forbidden by the asceticism and self-abnegation of the mediæval spirit. Petrarch's writings are the first in modern times to reveal the human soul in the whole gamut of passions, sufferings and aspirations. Here is first found that attitude of self-analysis that becomes a characteristic note in modern literature and thought. As a reaction against the all-controlling "other worldliness" of the Middle Ages, one aspect of this new motive was the substitution of the idea of a worldly immortality. This later gave rise to that revival of paganism characteristic of the Italian Renaissance.

Petrarch's writings only indirectly educational

In the narrower sense, none of Petrarch's writings are educational. The more important of them are his *Sonnets* in the vernacular, characterized by their introspective emotionalism, which give them an important place in the history of modern literature; his *Lives of Ancient Men*, wherein both Greeks and Romans become alive to modern men; and his very numerous *Letters*, wherein are revealed the development and the dissemination of the Renaissance spirit. It is not the content of these works that gives Petrarch a place in the history of education, but the new conception of life which they reveal and the new spirit and content which they give to education. This characteristic of Petrarch has a general significance also. As in its beginning so throughout its course, the Renaissance in Italy remained dominantly personal and individual. It did not seek to reform the morals of the times or to remove the formalism of the religious life and the narrowness of the political and institutional life.

Individualism a chief characteristic of the Italian Renaissance

Co-laborers of Petrarch. — Among the chief of these were Boccaccio (1313–1375), especially notable in literature, and Barzizza (1370–1431), especially notable for scholarship. These, with Petrarch, led in the movement for the revival of classical Latin, for the recovery of the classical text, for the multiplication of these manuscripts, and for the founding of libraries. In one remaining aspect of the educational Renaissance — the recovery of the Greek language — Petrarch had little part. In Hebrew the Italians had no interest, but to them was due the restoration of Greek. Even among the Byzantine Greeks of the East, a knowledge of the classical Greek was a rare thing. While many travelers and some students had come in contact with the contemporary Greeks and a few of the Byzantians in Italy professed to teach Greek, the first real teacher of the classical Greek in the Western world was Manuel Chrysoloras (d. 1415). From 1397 to 1400 Chrysoloras lectured at the University of Florence and later at other cities of Italy. Many flocked to his tuition; other Greek teachers followed his example; Greek manuscripts were brought over in great numbers; Greek grammars were written for Latin students. Shortly there was given to the Western world a new language and a whole literature, of infinitely greater wealth than that possessed, whether of classical Latin, of patristic and mediæval Latin, or of the vernacular.

Various educational aspects of the work of Petrarch and of his co-laborers

By the time the Renaissance movement had reached its zenith in Italy and had begun to pass north of the Alps, the classical Latin and Greek languages had been recovered. The largest part of the literature of these languages that we now possess had been brought to light, libraries had been founded and the new spirit as well as the new knowledge had been firmly established.

Recovery of the classical literature

MODIFIED CHARACTER OF THE RENAISSANCE IN NORTH EUROPE. — The later Renaissance period, that of the latter half of the fifteenth century and the greater part of the sixteenth, was modified in two respects. (1) By this time the

Center of the later Renaissance in north Europe

movement had run its course in Italy and had begun to decline into a formalism little superior to the old. (2) The movement shifted north of the Alps and, though first welcomed by the French, received its greatest development among the Teutonic peoples.

Late Italian Renaissance becomes formal

In the South the new learning tended to lose its wide interest in nature and in life and the intensity of its belief in personal development. It tended to concentrate into merely formal study of literature, until on the educational side it degenerated into that type known as "Ciceronianism." With the northern peoples culture and æsthetic appreciation as a means of personal development were not emphasized to the extent to which they were among the Italians. In the North there was not the broad interest in life, in its possibilities and in its opportunities for personal development; in its pleasures and its legitimate interests aside from the religious and social. Moreover there was little or none of that interest in the investigation of nature and of life in the past that so characterized the earlier period. Erasmus, who represents the later movement as Petrarch did the earlier, had none of these. Since the archæological, æsthetic, philosophical interests of the early movement were for the most part expressions of self-culture as well as means of personal development, there was comparatively slight attention to them.

Interests in the North of a social rather than of a personal character

While in the North the movement was a narrower one so far as it related to personal development, it was infinitely broader in another respect, — in that it resulted in social reform and improvement. In the South the movement was aristocratic. In the North, until late in the sixteenth century, it was democratic. All of the early leaders were social or religious reformers. With them the Renaissance movement fused with the Reformation movement. With Erasmus the interests that determined his career in life, the side chosen in every controversy, the selection of classics to be edited or translated, were all determined by one aim. This was to remove the common ignorance which was the root of the gross evils of Church and

State. He ever sought to condemn the selfishness, greed and hypocrisy of all who used the cloak of their office, whether in government, in university, in monastery or in Church, to prey upon the ignorance and superstition of those committed to their care.

THE EDUCATIONAL MEANING OF THE RENAISSANCE. Revival of classical literature primarily a means not an end:

(*a*) The Revival of the Idea of the Liberal Education. — Not only did devotion to the study of the classical literatures become the chief outward manifestation of the Renaissance spirit, but these literatures also furnished the chief means for developing the new life. The new aspirations for the development of free moral personality, defined on both the intellectual and the emotional sides, found little basis in the immediate past and little encouragement in the immediate present. But the life of the ancients as portrayed in their literature furnished both incentive and definite suggestion for imitation. The Renaissance was not a direct attempt to reëstablish the ideas and the life of the ancients, but in many respects it became such an imitation. This was because the formulation of certain aspects of life by the ancients could not be improved upon. Some aspects, however, could not well be modified to conform to the needs of the fourteenth and fifteenth centuries by men of such meager experience and outlook as were the students of that age. A most important phase of this revival was the restoration of the idea of the liberal education as formulated by the Greeks and adapted to the Romans by Cicero, Quintilian, Tacitus, and others. Educationally, the Renaissance seems often to have been merely a devotion to the study of the literary classics and to the linguistic drill necessary as a preparation. But this is not the heart of the matter, at least during the earlier period. The great desire was for a new life and, in this respect, for a new education hostile to the old, pedantic scheme of scholasticism. This ideal revealed itself in the liberal education as formulated by the ancients.

a means to the liberal education of the ancients

Both the earlier and the later Renaissance periods were quite

Renaissance educational treatises borrow idea of the liberal education from the ancients

prolific in treatises on education. Those of the earlier period not only revived the liberal idea, but even defined education in the same terms as those used by Plato, by Aristotle or by Quintilian. The aim of education was always conceived as that of producing the perfect man fitted for participation in the activities of the dominant social institutions. The ideal, while individualistic, was as clearly distinguished from the narrow practical aim of individual success as a citizen and from the other extreme of a life of isolation spent in mere contemplation of the good, as it was from the prevailing formal disciplinary education of the scholastics. The educated men of the past who were held up as ideals were Demosthenes, Aristotle, Cæsar, Pliny and, above all, Cicero.

Definition of liberal studies by Vergerius

Formulation of the Aim. — Some of the formulations of the purpose of education by these early educators are of great interest and value. Paulus Vergerius (1349–1420), a professor in the University of Padua, wrote a treatise on education about 1374 which was widely influential and even widely used as a text in schools. In this he formulated the conception of education as follows: "We call those studies liberal which are worthy of a free man; those studies by which we attain and practice virtue and wisdom; that education which calls forth, trains and develops those highest gifts of body and of mind, which ennoble men and which are rightly judged to rank next in dignity to virtue only." To distinguish it from a purely practical education, which, owing to the revived economic interests of the times, was competing with the liberal idea in the struggle with the dominant scholasticism, he adds: "For to the vulgar temper, gain and pleasure are the one aim of existence; to a lofty nature, moral worth and fame." The major part of all of these numerous treatises on education is naturally devoted to a discussion of the subject-matter and the method of education, since it was in these respects that the new education presented a visible contrast with the old. It has been noticed that while Plato defined the aim of education in terms of knowl-

Most educational treatises devoted to discussion of new literary content of education and of appropriate methods of study

edge and Cicero in terms of eloquence, — meaning knowledge both of the content and of the form of literature, — much more was indicated by these terms than they now connote. Knowledge and eloquence would now indicate the receptive or even the formal side of education; they then included the expression side as well. During the early Renaissance period this expression side was even wider than that indicated by efficiency in writing or speaking. At that time these powers stood for that effective participation in the affairs of the times which is now represented by the differentiated activities of all of our learned professions and by the public press.

The New Elements in Education. — One very important aspect of the Renaissance education was the inclusion in the ideal and practice of education of elements common in the classical period, but, with the exception of chivalry, excluded from the mediæval. The first of these is the physical element. Accompanying this emphasis upon the physical element was a similar one upon matters of conduct and behavior. In these respects the early Renaissance education represented a fusion of the chivalric and the literary education with a result much superior to that which was obtained in the preceding or in succeeding ages. These, along with the idea that literary training should not be of that contemplative character which would lead to lack of interest and want of power in practical life, are aspects of their thought of education as a training in effective citizenship. However literary the new education might be, the production of practical judgment in everyday affairs was one of its chief purposes. Hence the moral element received a new emphasis, different from that of the mediæval spirit, where the moral was limited to the religious and theological element.

Emphasis on the physical element;

on the element of practical efficiency;

One further element characteristic of the new education was the æsthetic. Wholly eliminated from the mediæval education, owing to the dominance of ascetic ideas, the æsthetic was reintroduced as the very breath of life of the new movement. It became the most characteristic feature of the change from the

on the æsthetic element

old to the new. It found its chief expression in the study of literature and became a dominant feature of the work of the schools under the titles of grammar and rhetoric. This emphasis on the importance of expression related not only to language but also to conduct and behavior.

The *humanities* restricted in meaning

(*b*) **The Narrow Humanistic Education.** — The content of this new education, consisting primarily of the languages and classical literatures of the Greeks and Romans, came to be indicated during this period by the term *humanities.* Battista Guarino, summing up his treatise (1459) on this new education, writes as follows: "Learning and training in Virtue are peculiar to man; therefore our forefathers called them 'Humanitas,' the pursuits, the activities, proper to mankind. And no branch of knowledge embraces so wide a range of subjects as that learning which I have now attempted to describe." This passage hints at the change which soon came to pass with tremendous results for education. The interest in the liberal education described in the last section was in "the pursuits, the activities, proper to mankind," and the literature of the Greeks and Romans was merely a means to an understanding of such activities. Soon, however, — that is, by the sixteenth century, — that which was at first merely a means came to be considered as an end in itself. The term *humanities* came to indicate the languages and literature of the ancients. Consequently, the aim of education was thought of in terms of language and literature instead of in terms of life; and educational effort was directed toward the mastery of this literature. That portion of these literatures which was superior from the formal standpoint became the center of educational effort. Consequently, the formal instead of the content or literary side of these writings was considered to be of the greater importance. This change, though a gradual one, resulted in the formulation of a type of education distinct from and inferior to the liberal education out of which it grew. This newer conception was far more widely accepted and has persisted well into modern times. As in popular usage the term

to the languages and literature of the ancients

The humanistic education one of languages and literature only

humanities was narrowed to indicate merely the languages and literatures of the two peoples, so the term ***humanistic*** was narrowed to indicate the type of education corresponding to it. Though not quite exact, since the term contains the original broader significance as well, we are forced to adopt, as following popular practice, the term ***humanistic education*** to indicate the narrow linguistic education that dominated European schools from the sixteenth to the middle nineteenth century.

Elimination of Elements from the Conception of Education. — At its best the narrow humanistic education gave little place to the physical and to the social or institutional elements. It had little thought of broad preparation for social activity through familiarity with the life of the ancients. It gave no place to the study of nature or of society (history) and, at first, little even to mathematics. The individualism of this education was not so much a training in the exercise of personal judgment and of personal taste and discrimination, as it was a preparation for a career which would be successful in the formal life of the times from the purely personal point of view. This end was gained through an education so formal and stereotyped that in time it eliminated most of the choicer results of the early humanistic education. The only phase of the æsthetic element preserved was the study of rhetoric. Education again became reduced to the work of the school and that work became of the most formal character, relating solely to the study of language and literature. Since the child began with the study of a synthetic language through the mastery of grammatical constructions, and since few children have much power of literary appreciation, the work of schooling must be prolonged for years in its attention to the structural side of language only. Even literary appreciation could not be a general attainment. Hence for the rank and file of children, educational work became a drill of the most formal and laborious character. In the universities the same tendencies prevailed that controlled in the lower schools. By the seventeenth century the study of the humanities was almost as formal

Elimination of the physical element; of the social; of the scientific

The æsthetic limited to literary appreciation

This possible of attainment by few

and profitless as had been the narrow routine of scholastic discussion of the fourteenth. Cicero now had become master in place of the dethroned Aristotle.

Cicero replaces Aristotle as the authority in education

Ciceronianism. — This humanistic education at its worst became almost inconceivably narrow and boldly asserted itself, even as early as the first half of the sixteenth century, under the name of *Ciceronianism.* The Ciceronians, arguing that the aim of education was to impart a perfect Latin style and that Cicero was the admitted master of that style, held that all work in the school should be confined to the study of the writings of Cicero or his imitators and that all conversation and all writing should be in Ciceronian phrase. In the words of the Ciceronian controversialist, "they would discard all subjects that do not admit of being discussed in Cicero's recorded words." Against these views, as represented by numerous Italian and French humanists, Erasmus carried on a long controversy and wrote his dialogue on *The Ciceronians.* In this satire the Ciceronian describes his ideal education. For seven years the child is to read Cicero and not a single other author, until he has practically committed to memory the whole of the master's writing and has acquired a Ciceronian vocabulary. In order to accomplish this, huge lexicons of words are arranged; others of phrases; others of the forms of introductions and of terminations of periods; others of comparative tables of the various uses of words. Letters, declamations, conversations, orations, are composed with infinite pains, in the effort to make a living language of that which even at the time of its creation was no more the spoken language than was that of Shakespeare during the sixteenth century or that of Browning in the nineteenth. Ciceronianism was an extreme. But substituting the classical writers in general for Cicero, their master, the whole tenor, purpose and method of the schools of the sixteenth, seventeenth and eighteenth centuries were but little broader than the spirit of the Ciceronians.

Interest chiefly in form

Character of the Narrow Humanistic Education. — In the

narrow humanistic education a familiarity with the classical literature, or with that portion of it superior from a rhetorical point of view, and a writing and speaking knowledge of Latin constituted the sole aim of education. The content of education and the subject-matter of school work became a prolonged drill in Latin grammar; a detailed grammatical and rhetorical study of selected Latin texts, especially of Cicero, Ovid, Terence, with less attention to Vergil and some of the historians; with some study of portions of the Scriptures, of catechisms and creeds in Latin or of the *Epistles* in Greek. This command of Latin was perfected through frequent exercise in declamation and the presentation of the comedies of Plautus and Terence. This was supplemented by some attention to Greek and possibly to elementary mathematics and, as a final accomplishment, a training in oratory. Oratory meant a speaking knowledge of Latin as nearly classical or Ciceronian as possible. Methods followed the most formal grammatical lines, with no appreciation of the child's nature. He was considered to be a miniature man whose interests and powers of mind differed from those of the adult only in degree, not in kind. Consequently, the child on coming to school was given the task of acquiring a foreign language, usually before he had acquired the ability to read or write his own. He must acquire this through a formal study of grammar and of rhetoric, and, for the most part, until late in the seventeenth century, must get this formal knowledge through text-books written in the same foreign tongue. There resulted a tremendous emphasis upon the memorizing powers and upon the power to discriminate forms. All this produced a dialectic ability little inferior in subtlety and "hair-splitting" acumen to that of the Schoolmen. The disciplinary spirit of such an education was of the harshest, because of the most formal, character. Corporal punishment furnished the incentive to study as well as to moral conduct — not a very secure basis for either. This education, formal in its spirit as in its subject-matter, accompanied the return to the emphasis upon the formal in

A writing and speaking knowledge of Latin the sole aim in education

Dominance of formal methods

and harsh discipline

life. This is seen in the intellectual, the political, the religious and the moral life of the seventeenth and eighteenth centuries. (See Ch. X.)

Educational leaders in the early Renaissance were often outside of schools

SOME RENAISSANCE EDUCATORS. — The great educators of the Renaissance movement were not necessarily teachers, though many of them were. Leadership in education was quite as frequently exerted by general treatises on the new learning or even by stimulation of appreciation for literature. It was thus quite outside the pale of university or school that the early Italian leaders wrought. In any educational sketch of the Renaissance, some of the more prominent of those who reduced the new learning to the methods and the purposes of the schools must find recognition.

In Italy the advanced position occupied by Petrarch, Boccaccio, Barzizza, Vergerius and other humanists has been noticed previously. Many of these early humanists, whether attached to courts or to universities, possessed but a meager income. Consequently, it was their custom to supplement this by receiving private students into their homes. Through such work, rather than through university lectures, these men reduced the new learning to definite educational procedure and exercised their greatest influence on their times and on education. Both Barzizza and Chrysoloras, leaders respectively in the Latin and the Greek revival, conformed to this custom, and Guarino of Verona was one of the most successful and most famous. A somewhat more detailed statement of the work of one of these must answer for that of all.

The first modern schoolmaster

Vittorino da Feltra (1378–1446) has been considered as the most famous of all these Italian educators, both by his own and succeeding generations. Since none of his writings have survived, his reputation depends on the influence of his pupils and the traditions of his school. Vittorino was a product of the earlier generation of humanists, and had been associated with the three scholars just mentioned. He taught privately at Padua and Venice and publicly at the University of Padua before

organizing the school which was to be the means of his great influence. In 1428 he was called to establish such a school by the Prince of Mantua, who wished to have the dignity of a school of the new learning at his court to rival those of the neighboring courts. Here he continued until his death. This institution represented the first thorough organization of the new learning for school purposes as distinct from university lectures. The master here gave to the Greek idea of a liberal education its first modern embodiment, and taught for the first time the literature, history and civilization of the Romans instead of the mere form of their language. Later ages have given Vittorino the title of "the first modern schoolmaster." In time, he associated children of his friends and of the neighboring nobility with the children of the court, until the school occupied an entire palace. His aim was to make the life of the pupils as pleasant and active as possible, so that the schoolhouse was made, as it was termed, "The Pleasant House." Sport and games were joined with study, æsthetic appreciation was cultivated, and, above all, moral and Christian influences were strongly emphasized. While the curriculum still retained the organization of the seven liberal arts, literature dominated, and dialectic and grammar were wholly subordinated. The new purpose represented a change even more radical. Education now became a direct preparation for a useful and balanced life in leadership in State or Church, for a citizenship based upon knowledge of and sympathy for the best in the life of the Greeks and Romans. Self-government by the boys of the school, a dependence upon the natural interests of the pupil, use of the natural activities of the child as a basis for much of the work, and a strong emphasis upon activity and upon the constructive side of the work as furnishing an immediate introduction into a useful life, were some of the features exemplified in this school at Mantua.

"Interest" in education

Moral and practical aim

Early German Humanists. — Among the early German humanists, John Wessel (1420–1489), Rudolph Agricola (1443–1485), Alexander Hegius (1420–1495), John Reuchlin

Leaders of the German Renaissance

(1455–1522), and Jacob Wimpfeling (1450–1528) possess the greatest reputation as educators. Their educational importance consists rather in what they did for the introduction of the new studies and the new spirit among German students, than for any formulation of educational doctrine or for any work in the organization of schools.

Erasmus the greatest Renaissance educator

Erasmus. — The most famous of all leaders of the new learning was Desiderius Erasmus (Gerardus Gerardi). Erasmus's long life (1467–1536) was wholly devoted to the furthering of the new learning as the most important factor in the much-needed moral, religious, educational and social reform of the time. As a scholar he probably does not take rank with some others of the critical phase of the Renaissance; but he was the most effective humanist and educator of all these centuries. "Of all scholars who have popularized scholarly literature, Erasmus was the most brilliant, the man whose aim was the loftiest, and who produced the most lasting effect over the widest area," is the judgment of Professor Jebb. It was in this broader sense that Erasmus was an educational leader. All his work was primarily educational; that is, designed to reform the many abuses in society that were the outgrowth of ignorance. Let us see how this was accomplished.

Education of Erasmus

Erasmus's early education was designed to fit him for the monastic life. But after a few years of the narrow training of the typical monastic school, he was put at his ninth year in the famous Church school at Daventer. Through the influence especially of Hegius and Agricola, he became imbued with enthusiasm for the new learning. Later, in Paris, in Oxford, and in Italy, he perfected his knowledge of languages and of the literature of the ancients. Throughout his life he remained a most indefatigable student and often denied himself the barest necessities of life to obtain coveted books. During his sojourn at Paris and at Oxford, he was a teacher of private pupils, and he became the first teacher of the new learning at Cambridge. For many years he led the life of the itinerant scholar, at centers

His educational influence exerted: (1) through teaching;

of learning in England, France, the Netherlands, Switzerland and Italy. For twenty years preceding his death he resided at Basel, then one of the chief centers of printing. Through his personal correspondence and his personal intercourse with students and scholars, he did even more of the work of instruction than through his formal connection with universities.

(2) through correspondence;

But Erasmus accomplished far more as a publicist than through either of these activities. Few men have published more, and no man has seen his writings so widely disseminated in his own lifetime. All of his vast labors in this line were determined by his dominant educational or reform motives. He possessed little of the archæological or æsthetic interests of many humanists, and none of the dialectic and metaphysical interests of the scholar of the old time. Against both of these he wrote, chiefly in the form of satire. This satire enters into many of his works, such as *The Praise of Folly*, *The Colloquies*, *The Adages*, and many of his briefer dialogues, such as the one on *The Ciceronians* previously referred to. *The Adages* is a collection of the sayings of the ancients, professing to give a summary of their wisdom, but in reality so selected and commented upon as to serve as an influence reformatory of existing abuses. *The Colloquies* discuss in dialogue form a general variety of topics so as to reveal the current abuses in Church, state, family, monastery and university. Thus Erasmus became a reformatory force next in importance to Luther himself. His whole effort was concentrated on giving to the public a more accurate and more intimate acquaintance with the Scriptures.

(3) through his unceasing efforts for the enlightenment of the public;

this partly accomplished through his satires;

A fourth aspect of his educational labors is seen in his editions of many of the Latin and Greek classics. Here, again, he purposed to give a more accurate knowledge of this literature and to make such selections as would expose the formality and the corruption of his times. Most important of these were the editions of Terence, Seneca, Cicero, Suetonius and Plautus. A work of even greater importance for schools was performed in preparation of Latin and Greek grammars and of text-books,

(4) through editions of Greek classics;

(5) through various text books;

of which the most famous and most widely used was *The Colloquies.*

(6) through his writings on education

One more source of Erasmus's influence still remains to be mentioned. This is his direct discussion of educational subjects. Such discussion is found in some of *The Colloquies*, in *The Ciceronians*, in his *Method of Study*, and in his *Liberal Education of Children.* His educational beliefs—there was no system of philosophy — were as follows. The writings of the classical authors, the Church Fathers, and the Scriptures contain all that is necessary for guidance in this life and for the reform of the many existing abuses; but it is necessary to know these in the original and in their uncorrupted form. Consequently, the great work of the schools is to study a wide selection of these and to thoroughly imbibe their spirit. No mere mastery of form is sufficient, nor is a limited selection of authors to be allowed. In place of dialectic distinctions or obscurities, rhetorical analysis and appreciation are to be emphasized. Grammar necessarily forms the basis of all school work, but grammar as an intelligent approach to literature. Nature, history and contemporary life are to illumine this literary study, as it in turn is to reform society. Such knowledge should be disseminated broadly and should be free to women as well as to men. The moral purpose in education should ever be emphasized, and a study of religious literature and participation in religious services should form a part of all training. In a similar way, conduct, behavior and the amenities of life receive due appreciation. The spirit is that of the best of the Italian Renaissance. The barbarous methods of discipline of the times are condemned, and more attractive methods are commended. A study of the child is advised, and personal care and direction of his studies is insisted upon. The function of the mother, the importance of play and of exercise, the necessity of keeping education vitally in touch with the life of the times, are all recognized. Many details of sound method, such as repetition, procedure through the mastery of small portions of work, importance of introductory studies such

Summary of his educational views

as grammar and many similar topics, find exposition in his writings. Above all, he combats the narrow thinkers of his own school who would reduce the new learning to a formalism no more fruitful than the old which it replaced.

Few of the educational leaders of the sixteenth or seventeenth centuries, and probably none of the important schools, failed to reflect in some degree the educational influence of this great master.

English Humanistic Educators. — England produced no great Renaissance leaders who achieved any wide reputation. So her humanistic educators are those of local or, at best, national influence. Special attention can be given to but one. (See p. 182 for others.)

Ascham, the representative English humanist

Roger Ascham (1515–1568) has achieved a reputation above all other English humanistic educators. This is due to two things: first, that he was one of the first Englishmen to write a treatise on education in the vernacular; and, second, that he possessed a style that has given him a place in literature as well as in educational history. Ascham was a product of the early Renaissance revival at Cambridge and succeeded Cheke, his master, to the chair of Greek. Afterwards he became tutor to the Princess, later Queen, Elizabeth, and then her Latin secretary. He was a man of public affairs as well as an educator, and speaks with the authority of such experience as well as that of a schoolmaster. This authority and his royal influence gave him his reputation during his lifetime. His educational treatise, *The Schoolmaster*, was not published until after his death (1571). His conception of education, though definitely limited by the title of his book to schoolroom education, is that of the typical humanists. Its aim is defined in terms of culture and virtue. Moral purpose and practical efficiency are supposed to be its outcome; but these ends are to be gained wholly by the use of literature. His analysis of the subject-matter of education shows a wide knowledge of the classics, and his recommendations are similar to those of Erasmus and of Sturm, whom he closely

His *Schoolmaster*

followed. His treatise, however, is so largely devoted to a discussion of method that the general impression left from his insistence on the importance of grammar is that of the narrower humanists. All learning seems not only to be based on this, but to center in it. His essential idea of method was that of "double translation," by which one would come into possession of a knowledge of the content as well as of a mastery of form. School discipline is the only other topic treated with any thoroughness. Ascham opposed the brutal discipline characteristic of all schools and masters of his time, and argued for a different attitude of teacher to pupil for both moral and pedagogical reasons.

His method of "double translation"

The new burgher schools

TYPES OF HUMANISTIC SCHOOLS. — The educational triumph of the humanistic ideas was first seen in the conquest of existing educational institutions, primarily the universities and the recently founded burgher schools. Then there followed the multiplication of such schools more thoroughly embodying the new spirit than was possible in those founded under the ægis of the old traditions. Finally, by the establishment of new types of schools wholly expressive of the new spirit, the humanistic education became triumphant. By the time this latter stage was reached, the Renaissance movement had coalesced with the Reformation movement, and these new types of schools were connected with some aspect of the religious reforms.

Formalism of work of schools, new and old

By the latter part of the sixteenth century, the formalism in the work of these institutions was no less characteristic and no less rigid than the formalism of the later mediæval education, though different in content. These schools and this narrow humanistic education represented the practice and the ideal of education for several hundred years. It was even well into the nineteenth century before there was any general revolt against them. In the subsequent consideration of other types of educational thought, it must be borne in mind that these latter were protests only, and that the normal condition was the one determined at the period here under consideration. (See Ch. IX.)

The Universities. — These general statements are especially true of the universities. Here the old traditions long resisted the spirit of the new learning. Though the conquest of some was complete and the new subjects in time found tolerance in all, the formalism of most university work was not radically changed. The most important modifications were a broadening of the authority which dominated the work, the change in content made by the addition of literary and linguistic subjects, especially Greek, and the substitution of classical for ecclesiastical Latin. It was in the Italian universities, those of Pavia, Florence, Padua, Milan and Rome, that the new learning first found a permanent home. As a result of the influence of Petrarch and Boccaccio, teachers of rhetoric in the universities began to devote their time to the study of the classical authors. The " imitation of the ancients " became a passion with many, and students were drawn from the dominant interests of law and dialectic. This imitation led to the study of the classics and from that to an attempt at reproduction, especially through epistolary efforts. In the case of the leading humanists this imitation produced a real literature; for it was not only an attempt to master the style of the ancients, but also to assimilate the content of their writings, their dominant ideas, and their conduct of life. During the fifteenth century the teaching of Greek in the universities, in the schools under the patronage of local lords, or in those under wholly private auspices, became quite common throughout Italy. By the sixteenth century the classical study in these universities had degenerated into that narrow *Ciceronianism* previously noted.

Introduction of the new learning into the universities

"Imitation of the ancients" in Italy;

As the new learning had spread through Italy chiefly through the wandering scholars and teachers, so it passed to the universities of the North during the later half of the fifteenth century. The University of Paris, where the Hieronymians had gained a stronghold and favored the new learning, was the storm center. Greek was taught here as early as 1458. The political connection between France and Italy was especially close after 1494;

in France;

this aided the development in intellectual sympathy, already strong because of the basal Latin character of the two peoples. During the sixteenth century French scholars and printers were the leaders of the movement, both within and without the universities.

In Germany;

After 1460 the German universities of Heidelberg, Erfurt and Leipzig were frequented by these wandering teachers of "poetry" (p. 173). The first permanent chair of the new learning — "Poetry and Eloquence" it was called — was established at Erfurt in 1494. Wittenberg, founded in 1502, was humanistic from the beginning. By 1520 the new learning was at least represented in all the German universities and thoroughly dominant in several of them.

In England

The new learning was first introduced into England at Oxford by a group of students who had acquired their inspiration from the Italian schools. The foremost of these Hellenists were William Grocyn and Thomas Linacre. Around these men Erasmus found a group of scholars gathered when he came to Oxford in 1498. At Cambridge it was Erasmus himself who introduced the new learning from 1510 to 1513. Ascham and Colet were Cambridge products of the early sixteenth century.

Numerous court schools of Italy similar to those of Vittorino

Schools of the Court and of the Nobility. — The hostility of the universities and of the Church and monastic schools to the new learning led to the establishment of many schools embodying the new spirit, under the patronage of the monarchs and of the nobility. This was especially true in many of the small Italian states, where the dignity of the court was much enhanced by such attendants (p. 174). A great rivalry grew up among these states for the attachment of noted scholars or for the possession of famous schools. The customary migratory life of the scholars in their search for learning or for new honors encouraged this competition and assisted in the dissemination of the new learning. At Florence, Verona, Padua, Venice, Pavia and numerous Italian cities, such court circles flourished, frequently with no organization into schools whatever. Some of these rivaled



CATECHETICAL INSTRUCTION IN THE PROTESTANT SCHOOLS
From a German Woodcut of the Sixteenth Century



THE
Proteſtant Tutor,
Inſtructing Youth and Others,
In the compleat Manner of
Spelling, Reading, and *Writing*,
True Engliſh:
ALSO
Diſcovering to them the Notorious FRAUDS,
DOCTRINES, and Cruel PRACTICES
Of the Popiſh Church, which Doctrines and Practices are every where found in
Popiſh SUCCESSOR
To which is prefixed,
A Timely MEMORIAL
TO ALL
TRUE PROTESTANTS
Concerning the Character of a horrid and damnable Popiſh PLOT, now carry'd on in Great Britain, in order to Deſtroy the Proteſtant King, GEORGE, and Royal Family, introduce a Popiſh Succeſſor, and Involve thoſe Kingdoms in Blood and Ruin.
LIKEWISE
The Moſt Gracious Declaration
FOR
Liberty of Conſcience,
Publiſhed by Order of the KING and COUNCIL.

RELIGIOUS SUBJECT-MATTER IN THE SCHOOLS

A page of illustrations from *The Protestant School-Master* (London, 168-) and the title-page of *The Protestant Tutor* (London, 1716).



the universities, and some were in connection with the local universities, which were but appendages to the court. Many such schools of these early masters embodied in a less notable degree the same ideas as the school of Vittorino. The function which these schools had in the education of the children of the court led to an emphasis on the physical and social elements in education as well as on the literary, and resulted in a fusion of the chivalric and humanistic ideas.

Similar schools in Teutonic countries

The Fürstenschulen, or schools for princes, founded in Germany during the early sixteenth century, were similar to these court schools of Italy in their purpose, in their curriculum, in their complete control over the life of the boys, and to a certain extent in their spirit. They differed from the dominant type of German Renaissance schools in a variety of respects. They were not controlled by municipalities as were the gymnasien, but were under the immediate control of the courts. They were boarding schools, and hence had wider supervision and more thorough control of the students. They aimed to train directly for leadership in Church and State, and drew their students chiefly from the families of the nobility. In respect to the content of their curriculum, they represented a broader if less definite type than the gymnasium and to an extent paralleled the work of the universities. The most important of these schools, never very numerous, were those of Pforta, Meissen and Grimma.



A *Fürstenschule*, BY HANS BURGMAIR (1453–1531)

The Gymnasium is the typical humanistic school of the Teutonic countries, and has remained until the present time as the

The public classical schools of Germany

best type of the secondary schools of those countries. Such schools were formed from the existing higher burgher schools or Church schools by the substitution of the classical for the mediæval Latin, the study of literature for the old formal rhetoric, of mathematics for dialectic, and by the addition of Greek and, in many cases, of Hebrew also.

Transition of the old Church schools into the new classical state schools

As early as 1485 the new influences were at work in the burgher school at Nuremberg, and in 1495 "poetry" was added to the curriculum. A few years later "poetry" and "oratory" were introduced into all the higher schools of the city. In 1521 Latin, Greek and Hebrew were introduced into the old cathedral school, and five years later Melanchthon inaugurated a new secondary school embodying his curriculum. By this time many other city schools had been remodeled, and the term *gymnasium* began to be used to indicate the schools of the new discipline.

Sturm's gymnasium at Strassburg

The gymnasium at Strassburg, organized in 1537 by John Sturm, and conducted by him for nearly forty years, exerted the greatest influence of any of these schools. The work of Sturm's gymnasium was divided into nine grades closely articulated, with work accurately gauged for the age and the stage of advancement of the pupil. The methods were carefully determined and faithfully adhered to for years. The subject-matter was chosen for the most part from the Latin classics, with some from the Greek and from the New Testament Epistles in Greek. The entire work of the school was determined by its great purpose, — the development of the ability to speak and write the Latin of Cicero. Though Martial, Horace, Virgil, Terence and Plautus were used, Cicero's writings formed the bulk of the curriculum. The orators and the comedians were especially studied for the command which they gave of the spoken language. There was much of declamation, oratory, presentation of plays, disputations and letter writing in the school for the same reason. Sturm defined the aim of education to be piety, knowledge and eloquence. By the first he meant knowledge of

Sturm's definition of education



FIRST ENGLISH PUBLIC SCHOOL; WINCHESTER, 1387. RELATIONSHIP WITH MONASTIC SCHOOLS INDICATED



catechism, creed, etc., with reverence for religion and participation in Church services; by knowledge he meant the Latin language and literature; and by eloquence the ability to use that language in practical life. Sturm trained many of the leaders of his time. His school often had more than a thousand pupils from many lands, many of them from the nobility. His influence was exerted on the schools of the sixteenth century through the many expert teachers whom he trained, through the influence of his model course of study so often imitated, through his published texts more carefully graded than any hitherto, through his correspondence with such men as Ascham and Melanchthon, and through his personal advice and influence in the establishment of schools. The school was of the narrow humanistic type. No attention was given to the vernacular, and only casual mention is made of geography and mathematics. In later years Hebrew was introduced. This represents the gymnasium of the sixteenth century; and with some gradual curtailment of the classical element, in favor first of mathematics, then of modern language and history, and finally, to some slight extent, of the natural sciences, it represents the gymnasium from that time to the present.

Influence of Sturm

With the progress of the Reformation and the organization of state systems of schools, the gymnasien passed under the control of the central governments and became, as they have remained, the unifying core of the various German school systems.

The English Public Schools represent the formulation of the same type of schools. In England such schools are on foundations, independent of both State and Church, furnished by private benevolence or by royal endowment. It is to this characteristic that the term *public* refers, for tuition charges are universal and are here quite high. Beginning with Winchester (1379) and Eton (1440), such schools had been founded before the Renaissance. But it was not until after the founding of St. Paul's in London (1512) that they became either numerous or

The public classical schools of England

representative of the Renaissance. St. Paul's, founded by John Colet, to whom reference has been made as one of the early humanistic leaders of England, became the model in curriculum, in method and in purpose. The first master, William Lilly, also a humanistic leader, perpetuated his influence and that of the school in a Latin grammar that was the standard text for all English schools for generations.

The "Great Public Schools"

At the time when Colet founded St. Paul's there existed in England from two to three hundred secondary schools in connection with monasteries, with cathedral or collegiate churches, with charity foundations in parish churches, with guilds or upon independent foundations. There were few of these latter, and all were inferior to Winchester and Eton. The close connection between these and the monastic schools is indicated by the illustration given, which is the oldest representation of Winchester School. The chief difference between these and monastic or hospital foundations was in the beginning not one of kind, but of degree. Here priests and paupers were provided for as well as scholars; but there were seventy of the latter and only three priests and sixteen charity foundationers. The main function of the institution was the preparation of students for New College, Oxford; hence teachers were provided, and behold! a new institution, a school rather than a monastery or a hospital. These public schools, nine of which, Winchester, Eton, St. Paul's, Westminster, Harrow, Charter-House, Rugby, Shrewsbury and Merchant Taylor's, are termed *great*, continued the narrow humanistic training as formulated during this early Renaissance period, almost without modification until the report of the royal commissioners of investigation in 1864.

The Latin grammar school of the American colonies

The Grammar School of the American colonies was a transplanted English public school. Soon, however, these schools became supported and controlled by the colonial or local town governments. Only rarely did such a colonial school receive a foundation by bequest, and even more rarely was one founded by religious or private association. The curriculum, the method

and the purpose were almost identical with those of their English prototype. Such schools were to be found in all the colonies, with the exception of Georgia and North Carolina. They were most numerous in the New England colonies, where the religious motive was prominent and where colleges demanding the preparatory grammar training were influential. In Massachusetts, Connecticut and Maryland systems of such schools existed. In Massachusetts alone such schools were established in considerable number. The first of these in America, the Boston Latin School, founded 1635, has existed continuously to the present time. The illustration given is of the old schoolhouse in connection with King's Chapel, as it was during the early part of the eighteenth century, at the close of the long mastership of Ezekiel Cheever. Cheever, the most famous of colonial schoolmasters, came to the Boston school in 1670, after a teaching experience of thirty-two years in New Haven and in various Massachusetts towns. For thirty-eight years he served as master of the Boston school. Owing to the fact that social and educational traditions were far less binding in the new country, the humanistic school gave place to a new type in America sooner than in any of the European countries. By the close of the eighteenth century, the Latin schools were replaced by the academy, to be mentioned later (p. 250).



THE BOSTON LATIN GRAMMAR SCHOOL, FOUNDED 1635.

The earliest of these schools at Boston

The most noted colonial schoolmaster

The Jesuit Schools, to be discussed under the Reformation (p. 202), were also important types of these schools.

SUMMARY

The Renaissance was primarily a movement in individualism. The characteristic features of the period were the attempts to overthrow the various forms of authority, in Church, State, industrial and social organizations, intellectual and educational life, dominant during the Middle Ages. In the earlier part of the movement and in the South of Europe, culture as the means of personal development was emphasized; later, and in the North, knowledge as a means of reforming those evils and injustices of society which were the outgrowth of ignorance was the chief interest. Two distinct types of educational thought and practice grew out of the Renaissance. The first was the revival of the liberal education of the Greeks, which aimed at the development of personality by means of a great variety of educational instruments. This aim of education was broad and included a variety of elements besides the intellectual, and used many means besides the literary. Soon, however, this became the exception, and survived only in various forms of protests or reform movements which sprang up against the dominant type of education. This dominant type of education was the second educational outgrowth of the Renaissance. It was the narrow humanistic education into which the broad humanistic or Greek liberal education soon degenerated. The classical languages and literatures were first studied as the source of all liberalizing ideas; then as a training in formal literary appreciation; then merely as a formal discipline of the individual. Each country produced a number of Renaissance educational leaders and appropriate types of schools. Among the leaders Erasmus was the most prominent. The German gymnasium, the English public school, the American colonial grammar school and college, were all types of the narrow humanistic schools. In all, the content of education was restricted to the Greek and Latin languages and literatures. This purely formal education became identified with the liberal education, and was the dominant type of education well into the nineteenth century. Any other conception or practice of education during the early modern period was wholly subordinate to this, and is of importance only as a protest or as a germ of subsequent development.

CHAPTER VII

THE REFORMATION, THE COUNTER-REFORMATION AND THE RELIGIOUS CONCEPTION OF EDUCATION

WHAT THE REFORMATION WAS. — The Renaissance in Germany is distinguishable from the Reformation only in its spirit and in its outcome. The most fundamental features of this period have already been mentioned in stating the changed character of the Renaissance in the North. The Italian Renaissance was largely interested in classical and pagan literature; the Teutonic Renaissance, in patristic and Christian literature. The one was concerned in personal culture; the other, in social reform, in morals and in religion. One was individualistic and self-centered; the other was social and reformatory. One explanation of the difference is found in the fact that the civilization of the Latin countries was based directly upon the classical institutions, the traditions and influences of which were ever present; while the civilization of the Teutons had been a direct outgrowth of their Christianization. Another partial explanation is that the Teutonic mind had a moral and religious bent, while the Latin mind was predominantly secular in its interests. The interests of the fifteenth century were literary and æsthetic, and involved the recovery and appreciation of the classical literatures. Those of the sixteenth century were ethical and theological, and involved criticism and reconstruction rather than appreciation.

Relation of the Reformation to the Renaissance

Chief difference was in the immediate aim and interests

This criticism and this reconstruction were directed toward two aspects of religion, one abstract and theological, the other practical and moral. The movement began with the practical effort to reform the many abuses within the Church. The

The two aspects of the religious reformation ethical and theological

Need for moral reform alone would not have caused a permanent division

necessity for such a reform was admitted by the Church long before the actual break occurred, and was striven for by many sections of the Catholic Church both before and after the open break had taken place. This tendency toward moral reform within the Church, which culminated in the Council of Trent (1545–1562), would probably in itself have caused no permanent division. But by that time the abstract and theological differences, due to fundamental disagreement, had become so prominent that harmonization was no longer possible.

Different temperamental attitudes toward religion

This fundamental divergence in the conception of religion is due to the nature of the human mind. It had appeared in the discussions of the later Middle Ages between realists and nominalists. But so long as men's minds remained essentially uncritical and without the basis for forming positive judgments, the inherent incompatibility of the views did not cause open rupture. With the Renaissance this basis was furnished in the knowledge of ancient and patristic literature, and the critical spirit was consequently developed. Hence it was inevitable that the two fundamental views of religion should come in conflict. The one view looks upon religion as a completed truth, revealed in its entirety by divine providence and given into the hands of an institution, which, in its origin, constitution and authority, is as divine as the original revelation itself. To the other view, religion is a truth divine in its origin, but completed only with the growth and through the development of the spirit of man. It is not a completed truth, but one whose principles are perfected by progressive application through the lives of men. Its particular meaning, in time and place, is given by the application of man's reason to the original revelation. Accepting the original revelation as the basis, the one finds the truth completed in the authority of the Church, the other in the reason of the individual. Hence the emphasis on reason, originating in the Renaissance, was continued by the Reformation and applied to religious beliefs and practices. The tendency to observation, comparison, criticism, — that is, the appeal to

The Reformation emphasis on reason was a continuation of the Renaissance attitude

original sources and to experience — which characterizes the humanistic Renaissance is the essential characteristic of the Protestant Reformation. From this grew the most important educational consequences.

The counter-Reformation was the reaction against this movement toward separation. The inquisition was the chief negative or repressive means of this reactionary movement, and education its chief positive one. This education was controlled for the most part by the newly organized teaching congregations, chief among which was the Society of Jesus.

The counter-Reformation was the reactionary movement within the Roman Catholic Church

INFLUENCE OF THIS PERIOD ON THE CONCEPTION AND SPIRIT OF EDUCATION. — The logical outcome of the views of the reformers would have led, first, to a continuous development of the Renaissance emphasis upon the use of reason in the interpretation of secular life and of nature; second, to the restriction of the authority of the Scriptures to religious matters; and third, to the use of reason by the individual even in the interpretation of the Scriptures. But the tendencies in all of these lines were checked before the expiration of a single generation. Luther, in the early days at Wittenberg, wrote: "What is contrary to reason is certainly much more contrary to God. For how should not that be against divine truth which is against reason and human truth?" And even later he said, "It is admitted that reason is the chief of all things, and among all that belongs to this life, the best, yea, a something divine." But before the close of his life he stated as his view that, "The more subtle and acute is reason, the more poisonous a beast, with many dragon's heads, is it against God, and all His works." This latter position is reiterated with characteristic vehemence and denotes not only an individual but a general change.

The Reformation was at first a continuation of the best educational influences of the Renaissance

A reaction found even in Luther's views

The Reformation leaders themselves recognized that the doctrine of the Reformation contained inherently the right of liberty of conscience and the duty of interpreting the Scriptures according to one's own reason. But they found it quite as

Broad application of fundamental Reformation principles to education made only in later centuries

difficult as it had been before to admit this right for others. Hence the application of the critical and rational faculties to literature, religion and secular affairs, to institutional life and to the realities of nature, was left for succeeding centuries. Even then this progress was through bitter conflict with the reformed churches as well as with the Roman Catholic. Liberalism of thought and emphasis on reason find little realization in the education of the time, either as formulated into doctrine, as organized into schools or as expressed in the somewhat indefinable spirit of education.

Formalism caused by the dominance of theological interests

Formalism in its Results. — On the contrary we find education dominated by a formalism growing out of the dominant theological groups into which the Protestant movement divided, the Lutheran, the Calvinistic, the Zwinglian and the Socinian, with their almost innumerable subdivisions. Lutheranism especially, following the political divisions of the German people, became a congeries of discordant sects, whose chief interests were now in the petty conflicts among themselves. The result was a multitude of creeds, expanded to cover the minutest details, carrying to their respective adherents all the authority of the Scriptures. Intellectual life was bound within these narrow limits. The education of the schools, higher and lower, took its purpose and received its spirit from this same formal and narrow interest. The counter-Reformation intensified the same attitude upon the part of those of the Catholic communion.

Intensified by the counter-Reformation

The new scholasticism

For the later half of the sixteenth and for all of the seventeenth century there existed a new scholasticism, either Protestant or Roman Catholic. In this there was a return to Aristotelianism as a basis for the endless definitions and distinctions made necessary by these involved systems. Though the content of this scholasticism of the sixteenth century was somewhat different from that of the thirteenth, its spirit and form were the same.

For these reasons the Reformation failed to secure freedom of learning, the spread of culture and the development of

science, during the sixteenth and seventeenth centuries, though these intellectual and educational results were logically involved in the basal positions of the reformers. The bitter partisan and destructive religious wars of the entire period were partially responsible for the dominance of the state over religion and for the formal and scholastic character of education. These conditions also explain the low ebb of educational affairs during the seventeenth century and the fact that the educational ideals of the early reformers and the reformed states did not begin to be realized until late in the seventeenth or in the eighteenth century.

The dominance of the new formalism and the religious wars explain the low ebb of educational affairs in post-Reformation times

This formal theological education appeared not only in the content of the work of universities and higher schools and in the spirit of the intellectual life in general, but also in the concrete work of the lower schools. Here it was not the actual training in formal theology so much as it was the training in the old dialectic power, the power of making fine distinctions in the meaning of words and of using abstract terms. There was little or no interest in content. Thus there resulted in all the schools an emphasis on the memory and on the abstract logical activities of the mind, with little reference to the inherent validity of the material upon which it worked.

The formalism of the lower schools

Humanistic Content.—On the content side the Reformation educators accepted the humanistic curriculum, though they used it for a purpose different from that of the earlier humanistic educators. This acceptance resulted from the vital connection between the two movements, previously noted, and from the fact that a mastery of the classical languages was essential to the direct study of the Scriptures and of the Fathers in the originals. Consequently, this study became the immediate purpose of Protestant education and found a prominent place in Protestant schools. The curriculum received a profound religious bias in a variety of ways. Catechisms, creeds and church services were memorized. The Scriptures were used as a text. The entire work of the school was directed to the exposition of Christian literature

Humanistic curriculum accepted by the reformers

Addition of religious material

Aim of the school

and doctrine and to the development of exegetical and polemical ability.

The Reformation led to the establishment of systems of schools, controlled and partly supported by the state

Institutional Effects. — One other great educational influence of the Reformation was the establishment of systems of schools based upon the idea of universal education. The development and completion of such systems of state public schools awaited the growth of the political idea that the welfare of the state depends upon the education of the individual citizens. But the basis for all such systems is found in the Reformation doctrine that the eternal welfare of every individual depends upon the application of his own reason to the revelation contained in the Scriptures. Consequently the ability to read the Scriptures in some form, the desirability of reading them in the original, and the necessity for the training of the rational powers presented new tasks for the school and demanded the universal and even compulsory education of children of all classes and of both sexes. It is not maintained that the Reformation gave the Bible to the people in the vernacular, for there were at least twenty-four German editions before that of Luther. Nor is it true that it gave the elementary school to the people; for it is probable that the actual opportunity for education open to children of all classes was greater for the century before the Reformation than it was for the century afterward. But the modern idea of elementary education is undoubtedly an outgrowth of the principles involved in the Reformation.

Completion of such systems of free schools the result of political ideas of eighteenth and nineteeth centuries

Reformation basis for universal education found in the necessity that every one should be able to read the Scriptures

SOME REFORMATION EDUCATORS. — It is quite difficult, if not impossible, to differentiate the humanistic from the religious educators of the sixteenth century. From the fact that the north European humanists gave the new learning a reformatory bent, they were collectively responsible for the Reformation movement. While many of them, such as Erasmus, Wimpfeling, More and Rabelais, refused to break with the Church and rejected the violent methods of the reformers, they could not dissociate themselves from this responsibility. On the one hand, many of those prominent as humanistic educators, such as Sturm, are quite

Most Reformation educators were humanistic educators also

as good representatives of religious education. On the other hand, many of those usually considered as Reformation educators, such as Melanchthon, are quite as thoroughly humanistic as any mentioned in the previous chapter. The religious aspect of the work of these educators is revealed in the purpose and organization of education, while the humanistic or realistic aspect appears in the content or subject-matter. The Reformation and the counter-Reformation movements produced many great educators and leaders of educational thought, though but few of them are here mentioned in detail. In fact, it was a consequence of the character of the later Renaissance movement that all the religious leaders seized upon education as the chief instrument for bringing about the reforms which they desired. On the Protestant side, the great leaders are Luther and Melanchthon and, in a less important way, the other great reformers.

Religious aspect seen in aim and organization; humanistic, chiefly in content

John Calvin (1509–1564) was occupied during the greater part of his life in religious and theological controversies. Only during his later years did he give especial attention to education. He then organized a college at Geneva, which was little more than a typical humanistic Latin school. Later, these schools became quite numerous throughout France among the Protestant communities. With the expulsion of the Huguenots, many schools of a similar type, under the patronage or influence of the French refugees, were established in Germany, as a type scarcely to be distinguished from the *fürstenschulen* previously mentioned (p. 183). Zwingli (1484–1532), the great Swiss reformer, fostered the humanistic learning, encouraged the formation of elementary schools, and wrote a treatise on "*The manner of instructing and bringing up boys in a Christian way*" (1524). John Knox (1505–1572), the leader of the Scotch Reformation, was the chief agent in the establishment of the parish school system of Scotland (p. 210).

Educational work of Calvin; of Zwingli and Knox

Martin Luther (1483–1546), the great protagonist of the Reformation, assumed the leadership of the educational

Luther, the great Reformer, in regard to nature and aims of education

movement that had begun in Germany even before the germs of the Renaissance ideas took root. This movement was threefold. It worked through the power of the state toward the deliverance of education from the trammels which the Church had gradually forged for it through centuries. It strove for a wider dissemination of the opportunities for education. It held a truer conception of the function of education in life, both religious and secular. All of these tendencies harmonized with Luther's beliefs, and the success of the Reformation necessitated at least a partial realization of them. Luther harshly condemned the education given by monastic and ecclesiastical schools and held that the purpose and scope of education was no longer to be dominated by religion and the Church. In his *Address to the Mayors and Councilmen of the German Cities,* Luther writes:—

Secular need of schools

"Were there neither soul, heaven, nor hell, it would be still necessary to have schools for the sake of affairs here below, as the history of the Greeks and the Romans plainly teaches. The world has need of educated men and women, to the end that the men may govern the country properly, and that the women may properly bring up their children, care for their domestics and direct the affairs of their households."

Broad scope of educational views of Luther

He looked upon the family as an educational institution not secondary even to the school. In his view education became something broader than the school. But the school itself was to be broader than that which then existed, and much broader than those established by his followers of the sixteenth and the seventeenth centuries. It is true that Latin and Greek constituted the bulk of Luther's curriculum. To those languages he added Hebrew, and also attempted to bring this linguistic education within the reach of all. But his curriculum was much more than linguistic. He also added the logic and mathematics demanded by the times, but laid a new emphasis upon history, science and music. This latter provision indicates one of Luther's most important influences upon the German people. For through his influence music became a component part of

the education of all. Gymnastics and physical education were given a place new to German thought.

Luther's views concerning universal education

Luther clearly saw the fundamental importance of universal education for the Reformation and insisted upon it throughout his teachings. Schooling was to be brought to all the people, noble and common, rich and poor; it was to include both boys and girls — a remarkable advance; finally, the state was to frame laws for compulsory attendance.

In the *Address* previously mentioned Luther wrote: —

Luther's conception of a school

"I by no means approve of those schools where a child was accustomed to pass twenty or thirty years in studying Donatus or Alexander, without learning anything. Another world has dawned, in which things go differently. My opinion is that we must send the boys to school one or two hours a day, and have them learn a trade at home for the rest of the time. It is desirable that these two occupations march side by side."

It was further his opinion that the authorities were "bound to force their subjects to send their children to school," just as they compelled every subject to render military service and for much the same reason; namely, for the defense and the prosperity of the state. Consequently, education should be state-supported and state-controlled.

The concrete work of carrying ideas into effect was left to his followers. Chief among these was Melanchthon.

Reason for terming Melanchthon the Preceptor of Germany

Philip Melanchthon (1479–1560) is called the *Preceptor of Germany*, for he was to Germany in educational reform what Luther was in religious reform. The title was not given without good reason, for at his death there was scarcely a city in all Germany but had modified its schools according to Melanchthon's direct advice or after his general suggestions, and scarcely a school of any importance but numbered some pupil of his among its teachers.

Work at the University of Wittenberg

Wittenberg was the center from which radiated these influences, united as they were with those of Luther. In this university Melanchthon labored for the last forty-two years of his life. Through his influence the university was soon remodeled along humanistic and Protestant lines, and became the

Influence of his pupils as teachers

model of the many new universities of Germany. To Wittenberg flocked students by the thousand, drawn by Melanchthon's great reputation. From Wittenberg, in turn, were sent out teachers carrying Melanchthon's idea into all Germany. If a prince needed a professor for his university or a city a rector for its schools, Melanchthon was consulted and most naturally one of his pupils chosen. The most distinguished teachers of this period, such as Neander and Trotzendorf, were his pupils, or, like Sturm, dependent upon him for counsel. Through his correspondence and visitation of schools he led in educational reform.

Melanchthon's text-books

Melanchthon's contact with the individual pupil was mainly through his many text-books. When sixteen years of age, he wrote the Greek grammar which later became almost universally the text for the German schools. His Latin grammar, written later, achieved a similar vogue. His texts on dialectic, rhetoric, ethics, physics, history, were similarly useful in the lower schools; and his theology became the great text for Protestant universities and higher schools.

The Saxony school plan

Through his formulation of the *Visitation Articles* of Saxony in 1528 (p. 208), drawn up at the request of the Elector, he became the founder of the modern state school system.

Melanchthon's pedagogical writings consist chiefly of inaugural addresses or lectures to students on the value of the study of literature and philosophy. They are of importance only as indicating the content and spirit of the humanistic education.

Humanistic schools become Reformation schools

TYPES OF RELIGIOUS SCHOOLS. The Universities. — The history of the universities of the German states during the sixteenth and seventeenth centuries was determined by the progress of the Protestant religion and was almost identical with the development of Protestant theology. Wittenberg, founded in 1502 as the first university of the new learning, became through the residence of Luther and Melanchthon the very center of Protestantism. The universities gradually threw off their alle-

giance to the pope and transferred it to the temporal princes. Since their support was now derived from the favor of these governments instead of from ecclesiastical sources, the control exerted by the princes became determinative. To a considerable extent their support came from the dissolution of old monastic and ecclesiastical foundations. Marburg, founded in 1527, was the first of these Protestant universities, while Königsberg, Jena, Helmstadt, Dorpat, and a number of others were added within a century. Within this same period seven Roman Catholic universities were founded within the limits of the German states. Several during the same period grew out of gymnasien, as the one at Strasburg (1621) from Sturm's school, and the one at Altdorf (1578) from a famous institution at Nuremberg. Both of these were Protestant. The work in many of these was of a high character, and their influence great. Altdorf, for example, though very poor, is said to have contributed more to philosophical study than all of the universities of the British empire. Yet, in general, by the seventeenth century the activities of these institutions degenerated into the lifeless formalism previously mentioned. A German historian remarks that the dominant theological interest "called into existence a dialectic scholasticism, which was in no way inferior to that of the most flourishing period of the Middle Ages, either in the greatness or minuteness of the careful and acute development of its scientific form, or in the full and accurate exhibition of its religious contents."

New universities

Work of German reformed universiti

In England the connection between the Reformation and the universities followed a similar course. At Cambridge, where the Reformation centered, the movement began early in the period, under the leadership of Tyndale (c. 1484–1536) and Latimer (1485–1555). The dissolution of the monasteries and friaries which formed so important a part of Oxford and Cambridge occasioned considerable diminution in their power and effectiveness. This was gradually offset by the founding of new colleges from the spoils of these dissolutions and by the establish-

The Refo mation in the Engli universit

ment of *regius* professorships. In various other ways the monarch and the national Church came to the support of the universities, but in time the degeneracy in work and life of these institutions was even more marked than in those of Germany.

Humanistic schools now controlled by the states and cities

Protestant Control of the Humanistic Secondary Schools. — The movement toward the secularization of the Latin schools, begun in the fifteenth century, was completed by the Reformation movement in the sixteenth. This secularization related to the control of schools and not to the purpose and character of study. Even under state control the dominant motive was the religious one. The rectors of these schools, as well as many of their teachers, were Protestant leaders or ministers. The dominant influence in the boards of control and visitation was always exercised by the representative of the Church. The new schools founded were shaped by Melanchthon's "School Plan," which was thoroughly humanistic in the sense that Erasmus and Luther would approve. The purpose was chiefly religious and political, rather than humanitarian in the broader sense. In content little difference, if any, from the old schools can be discovered. A little Greek and less mathematics were added to the Latin curriculum. No attention was paid to the vernacular.

Influence of Melanchthon's School Plan

State system of secondary schools

A more striking change was the organization of these schools into systems, through the coöperation of the state with the municipalities. The first distinctly Protestant gymnasium was that of Magdeburg, founded from the union of the old parochial schools in 1524. The following year Melanchthon drew up his plan of a gymnasium for the school of Eisleben, the birthplace of Luther. In 1528 the electorate of Saxony established the first general system of such schools. It provided for the founding of Latin schools on Melanchthon's plan in all the towns and villages of Saxony. The Duchy of Würtemberg followed in 1559 and the other German states later.

In England these secondary schools have not to this day been organized into a system. However, they remained practically under the control of the national Church. The reorganization

of these schools by Henry VIII and Edward VI was for the purpose of destroying the monastic and ecclesiastical control. Each was placed on a separate foundation, but most of them were so organized that the masters and fellows, the teaching and the controlling bodies, must be from the clergy of the Established Church. Thus they remained until the reforms of the nineteenth century.

In England such schools under independent control: the English public schools



THE WESTMINSTER PUBLIC SCHOOL, LONDON (f. 1542)

The great schoolroom in an old monastery

The Teaching Congregations. — No more conclusive evidence can be cited of the effectiveness of the Protestant schools as a means of reforming social and ecclesiastical evils and of establishing churches, than the adoption of the same means by the Roman Catholic Church. The instruments of the church were the new monastic or teaching orders. With the old monastic orders educational efforts were wholly subordinate. More important still, they were hostile in their nature and spirit to the new ideas and methods. The teaching orders adopted such ideas and methods, as improved upon by the Reformation schools, and exalted educational effort as their chief purpose. Until the early part of the nineteenth century these orders controlled secondary

The teaching orders of the Roman Catholic Church

and higher education, and for the most part elementary education also, in the Roman Catholic countries of south Europe and in France. They were also quite extensively represented in the Protestant countries of north Europe. The strongest and most important of these orders was that of the Jesuits.

Purposes of the Jesuit order

The Schools of the Jesuit Order. — The Society of Jesus, organized in 1540, became the chief instrument of the counter-Reformation movement. The means adopted by the order for the accomplishment of its purposes were preaching, confession and teaching.

Importance of the educational work of the order

We are here concerned with its educational activities alone, and with these in their historic aspect. Hence all such questions as the character of its influence, the motives inspiring it, the permissibility of its methods, the interference of the order in political affairs, the justification of the suppression of the order, are aside from our interests. It is possible to consider the organization, content, method and administration of its system of education without an intimate investigation of its spirit and purpose. This latter is something not to be gained from the study of plans and records or from the reading of books. It is possible to form a favorable judgment of the one without being in accord with the other. Certain it is that the schools, which were the most successful educational institutions of two hundred years and educated very many of the leaders of Europe for that period, were not without great merit.

Structure of the order; its educational system outlined in the *Ratio Studiorum*

THE CONSTITUTION OF THE ORDER consists of ten parts, the fourth one of which is the *Ratio Studiorum*, or *System of Studies*. This was not perfected until 1599, and remained unchanged until 1832. As formulated, it embodied not only the experience of the order through more than half a century of teaching and experiment, but also a full consideration of the experience of others. The order possessed the advantage of being able to give continuous attention to the subject and to carry on close observation and wide experimentation. No other single educator or group of educators had such advantages.

Interest confined to secondary and higher education

The function of the order was to train prospective members and to educate youth in general. They provided not only religious but also the most thorough secular education of the times. So successfully did they do this that they drew students even from the Protestant communions. The order was devoted to the education of leaders and consequently had little interest in elementary education, and hence in the education of the masses. Two classes of schools were established, colleges inferior and colleges superior; the former corresponding to the gymnasien and the latter to the universities and theological seminaries.

Number of schools and of students

EXTENT OF INFLUENCE. — By the second quarter of the seventeenth century the number of their colleges had increased to 372. By the opening of the eighteenth century they controlled 612 colleges, 157 normal schools, 24 universities, and 200 missions. And at the time of the suppression of the order, after the middle of that century, the colleges of both grades numbered 728. The attendance upon many of the larger of these colleges was over 2000; the total attendance in the department of Paris was over 13,000; and in the various national colleges at Rome more than 2000. At the time of the suppression, the order numbered about 22,000 members, the majority of whom were devoted to the work of education.

Outline of the organization

ORGANIZATION. — One cause of the great success of these schools is found in their completeness of organization and continuity of administration. The order was divided into administrative provinces, each presided over by a provincial responsible directly to the general. On the educational side were the rectors of the various colleges, under the provincial but appointed by the general. In turn, under the rectors were the prefects of studies, the educational supervisors, who were appointed by the provincials. The teachers were directly supervised by both rector and prefect, and the latter was required to make frequent visits to each class. This constant supervision and the constant check exercised on one officer by another, as

well as the preparatory training of all their teachers, made for a definiteness of procedure and a certainty of results that are without parallel in schools of that or subsequent times.

Close supervision and absolute authority of superior officers characteristic

This close supervision, amounting almost to repression on the one hand and espionage on the other, was also characteristic of the government of the pupils in the schools. The students were divided into groups under monitors and into pairs, so that each acted as a check upon the other. Thus order was secured and a respect for absolute authority that resulted almost in an elimination of individuality. Notwithstanding these characteristics in the way of limitations, there were corresponding merits in the matter of educational government. Discipline was secured through this ever present evidence of authority and by dependence upon religious motive, consequently the great abuse of corporal punishment, so characteristic of the time, was almost eliminated. In place of resorting to physical force, the Jesuit teachers elaborated, in their characteristically thorough and practical way, a system of rewards that made use of the motive of emulation to an extent never before employed.

Rigorous discipline

Corporal punishment almost eliminated

Thorough training of teachers

PREPARATION OF TEACHERS.—Yet another cause of the educational success of the order was due to the thoroughness of teaching in their schools, resulting from the careful preparation of teachers. The teaching force was made up for the most part of those who had passed through the rigid course of the lower and usually of the superior college, while the permanent teachers who directed the work of the student teachers were trained through a long university and normal career. Those best adapted to teaching were selected for this permanent service. As the members were picked men, to begin with, the order obtained a selected body of teachers far superior to those of any schools of the times.

explains the great success of their schools

THE SUBJECT-MATTER of the Jesuit schools was of the characteristic humanistic order. In this respect they did not differ from the other schools of the time, either as to the scope of the material or the purpose to be achieved by its use. Their superiority lay

in the fact that they were one and all kept up to the high standard of the *Ratio*, while the greatest variation prevailed among the schools under secular control in regard to methods and the selection of the subject-matter.

Subject matter thoroug humani with rel gious m rial add

METHOD. — Frequent reviews were given. Each day began with a review of the previous one; each week closed with a review; each year with a review of the year's work; and finally the student destined for the order reviewed the entire course by teaching it.

Frequer reviews acterize their m

Each class was divided into groups presided over by decurions, to whom the boys recited under the general supervision of the master. Another division was into groups of two, the *rivals*, by which means each boy was to become a corrective and an incentive to his companion, being expected to keep watch over his studies as well as over his conduct. A larger division of the classes was into groups for discussion concerning points of the lesson, grammatical, rhetorical and historical. These discussions were called *concertations*. The brighter boys were organized into *academies*, where the concertation became fully developed dialectic discussions. Themes, essays, translations, discussions of classical subjects, all entered here. Membership in these was wholly voluntary and was one of the forms of reward for merit.

Organiz within t school

Their entire work was based upon the principle that it is much better to give a small amount in a thorough manner than to give a rather indefinite impression or partial mastery of a quantity. Hence no single word was left without thorough explanation. While from the modern point of view their education was not broad, it was very thorough and very effective.

Principl thoroug ness

DEFECTS AND DECLINE. — After this review of the exceptional excellence of these schools, some explanation must be given of the extreme hostility aroused by them among the Protestants and of the opposition of the Roman Catholic Church that occasioned the temporary suppression of the order. To a large extent this hostility was due to the political activities of the order. The occasion for this is found in the application of the funda-

Decline order d political social re tionship

mental principle of the order, that all is to be done for the greatet glory of God (A.M.D.G., as it passed into the usual formula of the order, that is, *ad majorem Dei gloriam*). This was secured through advancing the interests of the Church. In its application the principle means the complete subjection of the individual member to the order, and of the order and of all whom it educated or could influence to the Church. Once more, in principle as well as in practice, the individual was to disappear completely before the institution. The principle frankly avowed by the order in its work, and expressed in the vows of the members, was the complete subjection of the individual. Their educational scheme was directed toward this end.

Limitation of the educational work and principles marked with the more recent changes in spirit and subject-matter of education

As Macaulay observes, "the Jesuits seemed to have found the point up to which intellectual development could be carried without reaching intellectual independence."

Both practice and principle of the Jesuit education were in opposition to the new ideals of the Renaissance period. Their very method, perfect as it was in its way, inhibited all initiative and prevented the development of all spontaneity and of all freedom of opinion. Their superiority was maintained so long as there was no great change in the spirit and subject-matter of education. But when, with the eighteenth century, there came to be a decided movement away from the dominant theological spirit and from the formal humanistic content of education, the Jesuit schools lost much of their prestige and superiority.

Character of Port Royal schools opposite to that of the Jesuits

The Port Royal Schools. — The schools of this order represented a reaction against the dominant Jesuit education both in their conception of education and in their method. They attained their importance not from their number or from the length of time that they existed (1637–1661), but from their influence. This was wholly confined to France, and was exerted chiefly through the writings of the members of the order.

Port Royal educators

The schools were founded by Duvergier de Hauranne (1581–1643), better known as St. Cyran, from the abbey over which he presided. Several of the leaders of the order wrote educa-

tional treatises widely circulated. Their most renowned pupils were La Fontaine (1621–1695) and Pascal (1623–1662).

Individual care of the pupil by the teacher was one of their distinguishing marks. To such an extreme was this carried that the child was never left free to himself, but was ever under the personal charge of his teacher. This practice grew out of the fundamental belief that the purpose of education was to shape the moral and religious character of the child; to mold his will by surrounding him with good influences. The motive of their work was the love of the child, enunciated now probably for the first time.

Individ care of pupil, t great p ciple of method

They held that children should be compelled to study only that which they could understand, and consequently that their education should begin with the vernacular instead of with Latin. They discarded the alphabetical method of teaching and invented a phonic method. After the vernacular was mastered, the child was introduced to classical literature through translations. When Latin was begun, it was taught with a minimum of grammar, chiefly through translation into the vernacular, followed by the reading of wide selections from the classics. The moral training through the use of the subject-matter was to come from literature instead of from language. Hence this small group of men exerted a great influence on the development of French literature. Literature, history, mathematics, were to be used on account of their content value, but only so far as they could be used in shaping character. Their thought was to lay the foundations of all schooling in a thorough mastery of the beginnings, but to make that mastery as attractive as possible to the pupil, by emphasizing content rather than form, by building upon the understanding rather than upon the memory, and by a greater use of the senses than had been the custom previously.

Princip interest

Influenc French guage a literatu

Modern characte of their educatic views

Elementary Schools in Protestant Countries. — The chief practical outgrowth of the Reformation was in the establishment of systems of schools controlled and partly supported by the state, founded on the principle that it was the duty of the

family, of the Church, and especially of the state to see that every child attended these schools and received at least an elementary education.

ıe Saxony hool sys- n, 1528

The Public School Systems of the German States were the first of the modern type. Not until 1559 do we find a system of schools providing for all the people. In that year the Duke of Würtemberg adopted a plan, though it was not approved by the state until 1565. This system, an extension of the Saxony

ıe Würnberg ıool sys- n, 1559



A GERMAN ELEMENTARY SCHOOL OF THE SIXTEENTH CENTURY

plan, provided for elementary vernacular schools in every village, in which reading, writing, religion and sacred music were to be taught. The Latin schools in every town and city were expanded into six classes, instead of the three of Melanchthon's original plan for Saxony (p. 198). Above these were the cloisteral or higher Latin schools, which were later incorporated with the lower Latin schools into the gymnasien. Crowning it all

ıe Saxony ıtem re- ed, 1580

was the university (Tübingen). In 1580 the Saxony plan was revised so as to incorporate the elementary vernacular schools of the Würtemberg system. This code, borrowed from the Würtemberg plan, remained without substantial revision until 1773. In 1724 it had been provided that girls as well as boys should attend. In 1773 the compulsory provision extending from the fifth to the fourteenth year was made effective and the scope of the curriculum broadened. Meanwhile, during the early seventeenth century, Weimar, Hesse Darmstadt, Mecklenburg, Holstein and others German states adopted systems that in some respects were in advance of the Würtemberg and Saxony plans. The first state to adopt the principle of compulsory education for children of all classes was Weimar, in 1619. It provided that all children, girls as well as boys, should be kept in school from the sixth to the twelfth year. Duke Ernst the Pious of Gotha, more than any other ruler, deserves the credit for the founding of the modern system of German schools. In 1642 he adopted a comprehensive regulation for the schools of the duchy which was substantially the same as that of the German states at the present time. Attendance from the fifth year was required of every boy and girl in the province. The school year was to be ten months in length and the children were compelled to attend every week-day. The school day was to be from nine to twelve and from one to four every day in the week, except that Wednesday and Saturday afternoons were free. Parents were to be fined for non-attendance of children. The subjects of instruction were those of the Würtemberg plan with the addition of arithmetic. The grading of the schools, the details of the subjects of study and the methods of instruction were all provided for in the general law.

Subsequent changes

Other German state school systems

Reforms of Duke Ernst the Pious

The Thirty Years' War (1618–1648) had a disastrous effect upon the development of the school systems of all the German states, and it was not until the eighteenth century that school affairs begin to make continuous and rapid progress. Then the Prussian school system, founded in 1648, rapidly forged to

Effect of the Thirty Years' War

The Prussian school system

the front in all educational matters. By that time, however, it was political rather than religious considerations that were determinative in the control of the schools. (See p. 388.)

Elementary education in England cared for by charitable and missionary societies

No other people have even approximated the achievements of the German states in these respects. Until late into the nineteenth century, England left all educational effort either to the family or to the Church. The chief means were the great public schools and special religious-educational societies. Among these were the Society for Promoting Christian Knowledge (founded 1699), the British and Foreign School Society (founded 1805), the National Society (1811), and the Home and Colonial School Society (1836).

The school system of Scotland developed from the Reformation

In Scotland the early Reformation period witnessed many efforts toward the establishment of schools under the influence of the Church. But it was not until 1696 that an effective system was established through the coöperation of Church and state. At that time an act was passed requiring the land-holders of each parish to provide a schoolhouse and to support a schoolmaster. In case the land-holders did not do this, the presbytery was authorized to apply to the commissioners of the shire, who were then to secure the enforcement of the act. The control of the teacher and the supervision of the schools were largely in the hands of the Church. Many of these schools offered secondary instruction as well as elementary, and sent boys directly to the university. Consequently the Scottish people had much better educational facilities and reached a higher common standard of intelligence than those of any other portion of the British Empire. No changes of any importance were made in the system until the opening year of the nineteenth century. Provisions were then made for more than one school in the larger parishes, and for transferring the power of selecting teachers from the Church to the taxpayers. From this time on a system of education adequate for towns as well as for rural regions gradually grew up.

No changes until the nineteenth century

In Holland a system of elementary schools was established

under the auspices of the reformed churches. Notwithstanding the cruelly oppressive Spanish wars of the sixteenth century, the synods of the Dutch Reformed Church made provision for the education of the youth. But it was not until the Synod of Dort (1618) that the Church undertook, in connection with the state, the establishment of a system of elementary schools in every parish. This system was as efficient as the chaotic condition of the times would permit. The earliest schools in the American colonies were established in accordance with the requirement of the Church-state of Holland that the respective trading companies should provide schools and churches for every one of their settlements.

Development of the school system of Holland out of the Reformation



A DUTCH VILLAGE SCHOOL OF THE SIXTEENTH CENTURY

In America the earliest systems of schools, however, were in the Puritan colonies in New England. These were also direct outgrowths of the Reformation spirit. The first general law providing for schools was passed in 1647 by the Massachusetts Bay Colony. The oft-quoted preamble to that law indicates the dominant motive. "It being one chief project of that old deluder, Satan, to keep men from the knowledge of the Scriptures, as, in former times, keeping them in an unknown tongue, so in these later times, by persuading them from the use

Systems of schools in the New England colonies grew out of the same Reformation influences

of tongues; so that at last the true sense and meaning of the original might be clouded and corrupted with false glosses of deceivers; and to the end that learning may not be buried in the graves of our forefathers, in Church and Commonwealth, the Lord assisting our endeavors;" it was therefore ordered that an elementary school should be established in every town of fifty families, and a Latin school in every town of one hundred families. In 1650 the Connecticut Colony passed a law of similar import.

Elementary education in Roman Catholic countries provided by the Church or by the "Christian Brothers"

Elementary Education in Roman Catholic Countries. — The Christian Brothers performed for elementary education, at least in France and to a less degree in other Roman Catholic communities, the same service which the Jesuits did for secondary education.

The Institute of the Brethren of the Christian Schools was founded in 1684 by Jean Baptiste de la Salle (1651–1719). By the time of the founder's death the institute numbered 27 houses and 274 brothers; by the opening of the Revolution 122 houses and 800 brothers. The spread of the institute until its establishment in almost every land, Protestant and Catholic, was the work of the nineteenth century. Their educational ideas and methods are set forth in *The Conduct of Schools*, first issued in 1720.

Characteristic methods of the order

The conception of education as well as the control exercised was thoroughly religious. Both in the control of the order and in the conduct of schools the spirit of asceticism was very marked. The rule of the schools most emphazised for both pupils and teachers was that of keeping *silence*. Punishment was to be used instead of reprimand, signals instead of commands, written work was emphasized and so far as possible restrictive and repressive measures were to be brought to bear upon the child. The subjects of study in the schools were the ordinary elementary curriculum: reading, writing, arithmetic, and religious instruction. These schools resemble those of the religious associations of England, previously mentioned, in the freedom from tuition charges and in their dominant religious purpose and spirit.

However narrow and repressive the spirit of the schools and the character of the method when compared with the freer spirit of the Protestant elementary schools, the scheme of the order was far superior in two respects. These were the training of the teachers and the grading and method of instruction. In these respects they made the first general approach to modern standards. One of the greatest defects of the times, especially of the elementary schools, was the very inferior character of the teaching body. This was due partly to taking the conduct of the schools from the immediate control of the Church and partly to the unsettled social condition of the times. No longer drawn from the clergy, who had at least some education and no distracting interests, the teachers in the elementary schools were largely made up of church sextons, disabled soldiers, village cobblers, or various persons whose chief occupation was either sedentary or lasting for part of the year only. As early as 1685 the Christian Brethren opened what was probably the first institution for the training of elementary teachers. All the members of the order were to be professionally trained for their work. In other normal schools, founded later, primary schools for practice teaching were incorporated. The excellent example thus given waited long for any general imitation.

Their important influence on the training of teachers

The improvement made in the method of instruction was in the substitution of a simultaneous or class method of recitation for the prevailing individual method. Usually, each child was instructed by most laborious methods in the alphabet, simple words, elementary reading and writing and rudiments of all the elementary branches. Even in the Jesuits' schools, while the classes were divided into groups under decurions for general discussion, each student finally recited in person to the master.

and on the class method of recitation

Some similar modification of the monitorial system was adopted in most of the English and many of the German Latin schools. The plan of class recitation, as a systematic method, the essential feature of all modern schools, was first brought into general use by the Brethren of the Institute. This as a matter

of necessity required a more careful grading of the schools than the previous one, based upon classification of subject-matter only.

SUMMARY

The Reformation was the Renaissance in the North, directed toward reforms in society and in the Church. It had both a moral and an intellectual or theological phase. In this latter respect it exalted the use of individual judgment. Consequently the division of the Church was unavoidable, since such sectarian divisions were based upon fundamental differences in the mental make-up of men. The earlier educational effect of the Reformation, continuing the early Renaissance tendencies, was to emphasize reason, the right of private judgment, and the necessity of familiarity with original literary material as the source of true ideas. Owing to the formation of many sects and the resulting conflicts between them as well as with the parent Church, the educational influence tended towards a new formalism little different from the old scholasticism. To the dominant humanistic content religious material was added. The chief immediate result of the Reformation in Protestant countries was the transfer of the schools to the control of the state, the building up of state systems, and the development of the idea of universal education based upon the necessity of reading the Scriptures, catechisms and other religious literature. While all Reformation leaders were concerned in the development of this new conception and organization of education, Luther was the most important. His views are much broader than those of his followers. Melanchthon put these views into practical operation, through the training of teachers, the writing of texts, and the organization of schools and of the Saxony system. The universities and humanistic schools, though nominally under state or independent organization, were really under control of the Church. First in Germany, then in Holland, Scotland, New England and other Protestant states, public school systems were developed during the seventeenth century. To the Reformation, then, we owe our idea of universal, elementary education and also the early realization of this idea.

CHAPTER VIII

REALISTIC EDUCATION

WHAT IS REALISM?—This term is applied to that type of education in which natural phenomena and social institutions rather than languages and literature are made the chief subjects of study. This movement in human thought became prominent and first profoundly affected educational thought and practice during the seventeenth century. In a true sense it was merely the further development of the Renaissance. The dominant interest in progressive thought in the fifteenth century was personal and cultural and hence revealed itself in literary and æsthetic forms. During the sixteenth century this dominant interest was moral and reformatory and hence became chiefly religious and social. But during the seventeenth century the same intellectual interests and forces became impersonal, and directed towards philosophical and scientific problems. Modern philosophical and scientific thought here takes its rise. Consequently the educational aspect of the movement, here termed sense-realism, may quite as appropriately be termed the early scientific movement.

Emphasis upon phenomena of nature and of social institutions

A development of the scientific aspect of the Renaissance

The earliest stage of modern science

Two phases of realistic thought in education developed before the growing interests in the natural sciences had begun to influence the educational theory. These are termed humanistic, or literary, realism and social realism. Each type had many devotees and found at least some expositors. In order to understand the details of these earlier movements of thought, a few of these exponents will be considered. They are not formulators of anything new, but are expositors of widely accepted views and practices. In the case of the more scientific move-

Two earlier stages of this realistic development

ment, the educators here considered performed a vital part in the development of thought and in the shaping of practice.

§ 1. HUMANISTIC-REALISM

Humanistic-realism was a later Renaissance survival of the idea of a liberal education

THE CONCEPT OF EDUCATION. — Humanistic-realism is the reproduction during the sixteenth and seventeenth centuries of a view of education characteristic of the earlier Renaissance period and now representing a protest against the dominant education of the narrow humanistic type. The humanistic-realists and the narrow classical humanists agreed in looking upon the classical languages and literatures as the sole object of study, or at least the sole means to an education. To both, this literature represented the highest achievement of the human mind and contained not only the widest product of human intelligence, but practically all that was worthy of man's attention. Yet there existed a fundamental difference in their purpose of study. We have previously considered the purpose and the spirit of the study of the narrow classicists (pp. 170–4). Their object was to form young Romans, to produce a newer Latium.

"Realistic" knowledge gained through literature. That is, literature studied for its content

The purpose of the humanistic-realist was to master his own environing life, natural and social, through a knowledge of the broader life of the ancients. But this could be gained only through a wide acquaintance with the literature of the Greeks and Romans. Mastery of form was important only so far as it was a key to the realities of thought. Study itself was not all of education. Physical, moral, social development formed component parts. The formal routine of linguistic discipline gave way to a broad and appreciative study of literature. It might even be necessary to resort to the practical study of life around one, but after all only for the purpose of a clear understanding of the text itself. For, when understood, literature was a safer and a more comprehensive guide to life than a direct study of that life.

REPRESENTATIVE HUMANISTIC-REALISTS. — Since this view was developed in opposition to the narrow humanism, its

representatives are found among the leaders of the later Renaissance. Erasmus, who lived to see and to combat this restrictive tendency, gives one of the clearest presentations of the position of the humanistic-realist in his *System of Studies*. His position may be summed up in a few words: "Knowledge seems to be of two kinds, that of things and that of words. That of words comes first, that of things is the more important." The views of Erasmus, however, are too broad to be classified through this one writing. The representative humanistic-realists are of at least a generation or even a century later.

Erasmus represents this view

Rabelais (1483–1553) is the better exponent of this view and the one usually selected as representative. The educational importance of Rabelais comes, not from any immediate and concrete influence on schools, but from the influence his ideas exerted upon Montaigne, Rousseau and Locke. Though a university man and scholar, Rabelais was a trenchant satirist on the humanistic tendencies and the learning of his time. His great work consisted in combating the formal, insincere, shallow life of the period, whether in state or Church or school. This satire, couched in most violent and exaggerated form, yet contains the truth of most of the reformatory aspirations of the sixteenth century. Consequently, the dominant education of words, instead of realities, meets his most forceful condemnation. In place of the old linguistic and formal literary education he advocated one including social, moral, religious and physical elements; one that would lead to freedom of thought and of action instead of the complacent dependence on authority, whether of schoolmen, classicists or churchmen. His training in medicine led him to give unusual emphasis to the developing sciences. It is true, according to his views, that almost all of education was to be gained through books; but it was through mastery of their contents and for practical service in life. Studies were to be made pleasant; games and sports were to be used for this purpose as well as for their usefulness in the physical

Rabelais the typical representative

Character of his educational writings and views

development of the child and for their practical bearing on his duties later in life; attractive rather than compulsory means were favored. In the closing part of a letter from the giant Garguantua to his son, the hero of the satire, concerning his education, the entire scope of his teachings can be given.

Extract giving a summary of Rabelais' educational views

"I intend, and will have it so, that thou learn the languages perfectly. First of all, the Greek, as Quintilian will have it; secondly, the Latin; and then the Hebrew, for the holy Scripture's sake. And then the Chaldee and Arabic likewise. And that thou frame thy style in Greek, in imitation of Plato; and for the Latin, after Cicero. Let there be no history which thou shalt not have ready in thy memory; and to help thee therein, the books of cosmography will be very conducible. Of the liberal arts of geometry, arithmetic, and music, I gave thee some taste when thou wert yet little, and not above five or six years old; proceed further in them and learn the remainder if thou canst. As for astronomy, study all the rules thereof; let pass nevertheless the divining and judicial astrology, and the art of Lullius, as being nothing else but plain cheats and vanities. As for the civil law, of that I would have thee to know the texts by heart, and then to compare them with philosophy. Now in matter of the knowledge of the works of nature, I would have thee to study that exactly; so that there be no sea, river, or fountain, of which thou dost not know the fishes; all the fowls of the air; all the several kinds of shrubs and trees, whether in forest or orchard; all the sorts of herbs and flowers that grow upon the ground; all the various metals that are hid within the bowels of the earth; together with all the diversity of precious stones that are to be seen in the Orient and south parts of the world; let nothing of all these be hidden from thee. Then fail not most carefully to peruse the books of the great Arabian and Latin physicians; not despising the Talmudists and Cabalists; and by frequent anatomies get thee the perfect knowledge of the microcosm, which is man. And at some hours of the day apply thy mind to the study of the holy Scriptures: first in Greek, the New Testament with the Epistles of the Apostles; and then the Old Testament, in Hebrew. In brief, let me see thee an abyss and bottomless pit of knowledge: for from henceforward, as thou growest great and becomest a man, thou must part from this tranquillity and rest of study; thou must learn chivalry, warfare, and the exercise of the field, the better thereby to defend our house and our friends and to succour and protect them at all their needs against the invasion and assaults of evil-doers. Furthermore I will that very shortly thou try how much thou hast profited, which thou canst not better do than by maintaining

publicly theses and conclusions in all arts, against all persons whatsoever, and by haunting the company of learned men, both at Paris and elsewhere."

John Milton (1608–1674), the poet, published in 1644 a brief *Tractate on Education* which remains one of the best expressions of the views of the humanistic-realists. His first objection to the dominant education was that against the method of approaching the subject through formal grammar and no less formal exercises in composition. Secondly, granting that this evil should be removed, he held that a greater one existed in the custom of directing the entire attention of the student to the mastery of the formal side of the language, without any attention to the literary or content side. Again, granting an improvement in this respect, his final objection was that all of education was not contained in the languages and literature of the Greeks and Romans.

Milton's *Tractate on Education* represents humanistic realism

There follows a truly marvelous analysis of the work of the school that is to provide for the boy's education from twelve to twenty-one. For the first year the boy was to receive the usual training in Latin grammar, together with arithmetic, geometry and moral training. Then followed the study of agriculture through Cato, Columella, Varro; of physiology through Aristotle and Theophrastus; of architecture through Vitruvius; of natural philosophy through Seneca and Pliny; of geography through Mela and Solinus; of medicine through Celsus. This study of the natural and mathematical sciences was to be supplemented by reading the poets who treated of cognate subjects. This list included such as Orpheus, Hesiod, Theocritus, Aratus, Nicander, Oppian, Dionysius, Lucretius, Manilius, Virgil and others. Thus the Greek and Latin languages were to be learned incidentally to the mastery of the content of the literature. In the following stages, ethics, economics, politics, history, theology, Church history, logic, rhetoric, composition, oratory, were to be mastered through the appropriate authors. In this manner, the political orations and treatises, the tragedies, the

Course of study recommended by Milton

histories, the poetry of the Greeks and Romans, were given place in this capacious programme. And not in the Greek and Latin only, for all of this necessitated the command of Hebrew, Chaldee, Syriac and Italian, the last acquired "at any odd hour." The prodigious scope of school work which Rabelais suggested in jest or for the race was incorporated by Milton into the programme of a school.

Milton's definition of education

One permanent contribution made by Milton to education is found in the notable definition which he formulated. While the form is that of the seventeenth century, the spirit is that of all times. "I call therefore," he says, "a complete and generous Education that which fits a man to perform, justly, skillfully and magnanimously all the offices both private and public of Peace and War."

Effect of humanistic-realism found in work of superior teachers. It was not characteristic of particular schools

THE EFFECT OF HUMANISTIC-REALISM ON SCHOOL WORK is necessarily a thing which cannot be estimated or traced. It was not characterized by any great external difference from the dominant humanism either in content or method; certainly not by any difference in organization or administration. Its direct influence on schools was only that exerted by individual teachers and individual programmes. Rare teachers and infrequent schools kept alive these traditions; but the dominant classicism overshadowed all other tendencies in school work. Naturally, since with the higher stages the formal language was at least mastered, the realistic spirit flourished more in the universities than in the lower schools. Yet the dominant character of the work of these higher institutions was, as has been previously noted, formal, artificial, and more or less perfunctory and traditional. The chief importance of humanistic realism is that it led directly to the sense-realism that soon found a place in organized educational work.

§ 2. SOCIAL-REALISM

THE EDUCATIONAL CONCEPT. — This term *social-realism* is adopted to indicate a view of education held by

various educators in previous centuries, but more generally accepted during the seventeenth and eighteenth centuries, and then also most clearly expressed in theory. Its advocates looked upon the humanistic culture at its best as an inadequate preparation for the life of the gentleman. Its great representative, Montaigne, said in this connection: "If the mind be not better disposed by education, if the judgment be not better settled, I had much rather my scholar had spent his time at tennis. . . . Do but observe him when he comes back from school, after fifteen or sixteen years that he has been there; there is nothing so awkward and maladroit, so unfit for company and employment; and all that you shall find he has got is, that his Latin and Greek have only made him a greater and more conceited coxcomb than when he went from home."

Social-realism was education for practical life in the world; usually an education of the gentry

Education should shape the judgment and the disposition so as to secure for the youth a successful and pleasurable career in life. This view regarded education, in the frankest and most utilitarian manner, as the direct preparation for the life of the "man of the world." Holding a view as far as possible from a high idealism, or a rigid asceticism, or a fervid emotionalism, these educators looked with unconcealed skepticism upon the ordinary routine of the school and the accepted opinion of humanistic studies. To them, education should be a frank preparation for a practical, serviceable, successful, happy career of a man of affairs in a civilization formal enough in its pretenses, but not over rigid in its standard of conduct. To them the more important fact of education was a period of travel for the sake of acquiring experience and familiarity with men and customs. Through travel one would acquire practical knowledge and the culture which comes from actual contact with places and people made familiar through literary study.

Importance of travel and direct contact with society

MONTAIGNE VS. ASCHAM CONCERNING REALISTIC SOCIAL EDUCATION. — With many writers throughout the course of the history of education, one finds an acceptance of the view that a period of travel and the consequent broadening of

This custom of education through travel, of long standing

one's views and one's experience form the proper conclusion of a long course of study. After the practice of sending Roman youths to Greece to complete their education had become quite common, Quintilian discusses this question. Ascham devotes a considerable portion of his *Schoolmaster* to a condemnation of this practice and this conception of education which was quite common among the gentry. In general, he objects that "Learning teaches more in one year than experience in twenty; and learning teaches safely, when experience maketh more miserable than wise." In the concrete, his objections are that "a young gentleman, thus bred up in this goodly school, to learn the next and ready way to sin, to have a busy head, a factious heart, a talkative tongue, fed with a discoursing of factions, led to contemn God and his religion, shall come home into England but very ill-taught, either to be an honest man himself, a quiet subject to his prince, or willing to serve God under obedience of honest living." This conservative English view of the result of grafting Italian and worldly culture on the native English robustness was not the common one among the gentry — who alone as a class provided an education for their children. This is one side only of the picture. Hear Montaigne describe the other.

Opposed by Ascham in his *Schoolmaster*

Defended by Montaigne in his *Essays*

"That he may whet and sharpen his wits by rubbing them upon those of others, I would have a boy sent abroad very young. . . . This great world, which some multiply as several species under one genus, is the true mirror wherein we must look in order to know ourselves as we should. In short I would have this to be the book my young gentleman should study with most attention. Many strange humours, many sects, many judgments, opinions, laws, and customs, teach us to judge rightly of our own actions, to correct our faults, and to inform our understanding, which is no trivial lesson. . . . In these examples a man shall learn what it is to know, and what it is to be ignorant; what ought to be the end and design of study; what valour, temperance, and justice are; what difference there is between ambition and avarice, bondage and freedom, license and liberty; by what token a man may know true and solid content; to what extent one may fear and apprehend death, pain, or disgrace, '*Et quo quemque modo fugiasque ferasque laborem.* (And how one may avoid,

or endure each hardship.)' He shall also learn what secret springs move us, and the reason of our various irresolutions; for, I think, the first doctrines with which one seasons his understanding ought to be those that rule his manners and direct his sense; that teach him to know himself, how to live and how to die well. Among the liberal studies let us begin with those which make us free; not that they do not all serve in some measure to the instruction and use of life, as do all other things, but let us make choice of those which directly and professedly serve to that end. If we were once able to restrain the offices of human life within their just and natural limits, we should find that most of the subjects now taught are of no great use to us; and even in those that are useful there are many points it would be better to leave alone, and, following Socrates' direction, limit our studies to those of real utility."

Subordinate position of studies

Studies are not condemned, but they are subordinated. They are only means, partial and insufficient at best, to an end which lies wholly beyond and without them. The end is found in character, — in the practical, successful, efficient, useful and happy life of action. In this sense the ideal is a moral, not an intellectual one; but it is moral in a matter of fact, utilitarian sense. Herein the Renaissance conception of education is exalted; but the Renaissance means to that end is rejected, just as in the narrow humanistic education the means was accepted but the end unappreciated and neglected.

Rejection of Renaissance educational means

MONTAIGNE'S CONCEPTION OF EDUCATION. — Michael de Montaigne (1533–1592) presents in his essays *Of Pedantry*, *Of the Education of Children*, and *Of the Affection of Fathers to their Children* the clearest expression of this view of education.

Only a superficial knowledge of literature necessary

Though in all his writings, Montaigne adopted the current practice of making reference in almost every sentence to the ideas and words of the ancients and thus making a parade of his learning, yet he was not a humanist as he is so often classed. This very practice, especially as an educational ideal, he frequently condemns. He granted that a certain amount of this knowledge was desirable, that "one should taste the upper crust of science," but after all merely as an accomplishment always to be distinguished from education itself. He inveighed

constantly against this misconception of knowledge and of education. "We can say, Cicero speaks thus; these were the ideas of Plato; these are the very words of Aristotle. A parrot could say as much. But what do we say that is our own? What can we do? How do we judge?" Such knowledge is "like counterfeit coin, of no other use or value but as counters to reckon with or set up at cards." For such knowledge that came through books and was primarily of books, the greatest scorn was expressd, since it had nothing to do with the real life of the individual. "A misuse enriched with the knowledge of so many things does not become ready and sprightly. A vulgar understanding can exist by the side of all the reasoning and judgment the world has collected and stored up without benefit thereby."

Knowledge through books of little value

In some respects agreed with sense-realists, in others not

Montaigne believed in the training of the senses and in physical education; he believed with the ancients that a sound body is the basis of a sound mind; he believed that the vernacular should come first and should be taught by natural methods. Therefore he is often classed with the sense-realists. In these respects, indeed, he did agree with them. But he gives no emphasis to the study of the natural sciences or of the phenomena of nature, and is not concerned at all with knowledge of any kind as the end of education.

The Aim of Education according to Montaigne is Virtue. — Montaigne's idea of virtue is expressed in one place as his conception of the function of the teacher. The teacher should

Aim of education was virtue. Montaigne's description of virtue

"make his pupil feel that the height and value of true virtue consists in the facility, utility, and pleasure of its exercise, and that by order and good conduct, not by force, is virtue to be acquired. . . . Virtue is the foster mother of all human pleasures, who, in rendering them just, renders them also pure and permanent; in moderating them, keeps them in breadth and appetite. If the ordinary fortune fails, virtue does without, or frames another, wholly her own, not so feeble and unsteady. She can be rich, potent, and wise, and knows how to lie on a soft and perfumed couch. She loves life, beauty, glory, and health. But her proper and peculiar office is to know how to make a wise use of all these good things, and

how to part with them without concern — an office more noble than troublesome, but without which the whole course of life is unnatural, turbulent, and deformed."

This is not a high idealism; certainly no rigid asceticism. Yet it is a wholesome corrective of the formal morality of the time and of the pedantic scholarship which passed for education. It is a frank statement of an honest, if somewhat materialistic, morality. If inferior at many points to the abstract, authoritative, and ineffective idealism of the times, it at least was practicable and far superior to the actual state of affairs.

Not a high idealism

The Content of Education. — Such studies as are needed can be selected by the same practical or pragmatic principle. "Among the liberal studies let us begin with those which make us free; not that they do not all serve in some measure to the instruction and rise of life, as do all other things, but let us make a choice of those which directly and professedly serve to that end." Herein is stated the principle that is coming to be accepted in modern times. In a story from the Greeks, which Montaigne quoted, the same principle is expressed even more trenchantly: "Agesilaus was once asked what he thought most proper for boys to learn. 'What they ought to do when men,' was the reply." He would not have the traditional studies entirely neglected. But he held that their importance was secondary and depended much upon the method. "After having taught your pupil what will make him wise and good, you may then teach him the elements of logic, physics, geometry and rhetoric. After training, he will quickly make his own that science which best pleases him."

Study what will be practically useful

Method of Education. — The principles of method enunciated follow as corollaries from the general conception given. Knowledge is to be assimilated, action is to be imitated, ideas are to be realized in conduct. "A boy should not so much memorize his lesson as practice it. Let him repeat it in his actions. We shall discover if there be prudence in him by his undertaking; goodness and justice, by his deportment; grace

Lessons to be "practiced," not "learned"

and judgment, by his speaking; fortitude, by his sickness; temperance, by his pleasures; order, by his management of affairs; and indifference, by his palate." Here, again, are given both the elements in the ideal and the character of the method. The most famous statement of method found in Montaigne contains the gist of all his educational ideas. Apropos of the traditional verbal instruction, he remarks: "To know by heart only is not to know at all; it is simply to keep what one has committed to his memory. What a man knows directly, that will he dispose of without turning to his book or looking to his pattern."

"To know only by heart is not to know at all"

"The art of living well"

The sum total of the views on education, whether of purpose, content, or method, Montaigne expresses in words from Cicero: "The best of all arts — that of living well — they followed in their lives rather than in their learning."

Social realism could not be taught in schools and so had little effect on schools

SOCIAL-REALISM IN THE SCHOOLS.—Social-realism was a type of education not to be found widely represented in the schools. Schools were too much given up to grammar and rhetoric to think much of useful and happy lives; too much devoted to cramming the memory to think of training the judgment. This type of realism rather expressed an educational practice, one common with the upper classes of society for these centuries in most European countries. It is a conception of education which found a presentation in educational writings, and claims as its chief representative one of the most charming writers of any age and certainly one of the most lovable of "pedagogues."

§ 3. SENSE-REALISM

The germ of all modern conceptions of education

THE GENERAL CHARACTERISTICS OF SENSE-REALISM.—This conception of education was formulated during the seventeenth century and grew out of and included the characteristic phases of the earlier realism previously described. But in addition it contained the germs of the modern conception of education, whether stated in psychological, sociological or

scientific terms. The term itself is derived from the fundamental belief that knowledge comes primarily through the senses. Consequently, education was to be founded on a training in sense perception rather than on pure memory activities and was to be directed toward a different kind of subject-matter. So far as most of the characteristics mentioned are concerned, the term *early scientific movement* would be quite as accurate. This, however, would not so clearly indicate the connection of the tendency with previous development.

Primary id was importance of trai ing in sens perception and of stud of natural phenomena

For the first time, we find formulated a general theory of education based upon rational rather than upon empirical grounds. The sense-realists were influenced by the new discoveries then being made in nature's processes, and the new inventions contrived to take advantage of her forces. They were imbued with an interest in and a respect for the phenomena of nature as a source of knowledge and truth, and held that education itself was a natural rather than an artificial process. They believed that the laws or principles upon which education should be based were discoverable in nature. This belief gave rise to two tendencies observable in the work of all the representatives of this group. The first was that toward the formulation of a rudimentary science or philosophy of education based upon scientific investigation or speculation rather than upon pure empiricism. The second was a tendency to replace the exclusive literary and linguistic material of the school curriculum with material chosen from the natural sciences and from contemporary life. The first tendency constituted the earliest attempt, at least since the time of the Greeks, to formulate an educational psychology. While several of these men insisted upon the study of the child, and the adaptation of the educational processes to the child, their thought in respect to these educational principles was controlled rather by their theory of knowledge and, as with Bacon, by their investigation into the manner in which knowledge was advanced by mankind as a whole. They possessed little, if any, knowledge of the development and activities of the

Principles c education discoverabl in nature

An educational psychology

child's mind. They held, however, that the child should acquire the idea rather than the form and should understand the object before the word, or the word through the object. This view, which seems to us a commonplace and self-evident truth, constituted for that period a revolution in thought and, so far as carried out, one in practice as well. This, moreover, led to another innovation. It necessitated the use of the vernacular in the earlier school years and thus produced a practical and a permanent reform. Both the early Protestant reformers and the Port Royalists emphasized the value of the vernacular. But its importance was first established on strictly educational grounds by the sense-realists. This sense-realistic tendency was also the first general educational response to the new scientific and philosophic ideas which were the logical outcome of the Renaissance movement.

Use of the vernacular

Along with these tendencies went a corresponding change in method. This was the effort toward the formulation of a method — the inductive — appropriate to the new subject-matter and the new aim. While not grasped at all by the earliest realists, the re-formulation of this method constitutes the chief claim to greatness of one whom we have here included in this group, — Francis Bacon. The educators of this group who came later in time than Bacon, all adopted the method of induction as the most important key to the solution of all educational difficulties. Educationally, this thought developed into the idea of a general method, by which all children could be taught all subjects, in a way wholly novel. So expeditiously was this to be accomplished that instead of the meager results of previous times, all children would now be able to master all subjects.

Formulation of a new educational method based on the inductive process

Idea of a general method

It is necessary, therefore, to refer to one other characteristic of seventeenth-century thought in order to understand the work and ideas of these sense-realists. In this thought of the great possibilities of the new education, they shared in the visionary hopes of the times. Disappointed at the failure of either the

reform in religion or the recovery of the classical learning to bring about any great and rapid social betterment, the thinkers and writers of the period, who strove for the general improvement of mankind, turned to the new sciences and the new method for the solution of these evils. This general tendency was termed the "pansophic" movement. Through the universal dissemination of knowledge concerning life and nature and by means of the new method, it endeavored to raise the average of human attainment, thought and activity to the level reached hitherto only by the favored few.

Movement toward the universal organization and dissemination of knowledge termed the "pansophic" movement

When unified, reduced and organized by the application of the new method of induction, the sense-realists held knowledge to be comparatively simple. By means of the new method and the previous use of the vernacular all the necessary languages could be mastered, and within the time and effort allotted to the mastery of one under the old system. Upon the basis of this unified and simplified knowledge which consequently could be mastered by every individual, the race could go on in a course of discovery, invention and self-improvement. Upon this uniform method and content of education they based their hopes, first, of a unified language or at least of unified national languages; second, upon the unified language, the hopes of a unified religion in place of the innumerable dissenting bodies then existing; and upon the unified language and religion, the hopes of a unified political life and organization. It is to be noted, however, that rationality not authority, was to form the basis of all this. This new education of the seventeenth century was expressed in the educational writings of the times. However, it acquired but slight influence upon the schools, and that was of very gradual growth.

Social reform and progress to be the outcome of the pansophic movement

Basis found in rationality not in authority

SOME REPRESENTATIVE SENSE-REALISTS. — A movement so lasting and so fundamental naturally found expression in the writings and in the work of many men. Some of these perceived the new idea in a few of its aspects only, while others grasped it in its entirety. Two or three of these representatives,

Many representatives of this movement

who wrote before the philosophy of the movement had been formulated by Bacon and Descartes, are quite worthy of study if space permitted. Among these are the Frenchman, Peter Ramus; the Spaniard, Ludivico Vives; the Englishmen, Mulcaster, Hoole, Hartlib, Petty, and the philosopher Bacon; and above all the Czech, Comenius.

Mulcaster was the first advocate of the general use of English in education

Richard Mulcaster (c. 1530–1611) was one of the earliest of these. He was one of the first to advocate the use of the vernacular in education, and in 1582 published *The Elementarie, which entreateth chiefliе of the right Writing of the English tung.* In his work published in the preceding year (1581), entitled *Positions wherein those circumstances be examined, which are necessary for the training up of children either for skill in their booke, or health in their bodie,* he expresses views that entitle him to be classed among the reformers of the following century. As a reaction against the formal, repressive school work of the times, which aimed at the eradication of many of the tendencies and activities natural to childhood, Mulcaster held that education should not aim either to force or to repress the child. "The end of education and training," he wrote, "is to help nature to her perfection." Two or three corollaries of great importance followed from this view of the nature of education. One was that while all children can profit by some elementary training in the vernacular, yet on the other hand too many seek the higher education in the classical tongues which is not fit for all. Another corollary was that education of both grades should be for boys and girls alike. Mulcaster further argued that education in the schools is preferable to education by tutors. This latter view led to the elaboration of a *position* that forms one of the remarkable previsions of the work. The arguments for the training of teachers are fully stated, and, in addition, Mulcaster held that the universities should provide for this as for the professions of the law, medicine and the ministry.

First advocacy of the general training of teachers and of an educational department in universities

Francis Bacon (1561–1626) stands highest among those who caught a preliminary glimpse of the coming changes in the

character of the intellectual life and of education. He possessed little knowledge of or interest in either educational problems or processes and wrote little directly on either question. But Bacon gave to philosophy and to the intellectual life a new purpose. He rejected the previously accepted aim — the theoretic formulation of knowledge — in favor of the practical and useful aim. The intellectual life was to be made fruitful, as the old speculation was not, by being made practical. What is true of the intellectual life in general, is more true of its method, — education. In becoming fruitful, it becomes useful to the many instead of attainable only by the few.

Bacon had little direct knowledge of or interest in school work: but influenced education profoundly

This fruitfulness was to be gained by giving the intellectual life a new foundation, — nature. Neither theology nor metaphysics, the basis of previous philosophies, but physics was to serve as the foundation of the new. Even the moral and political philosophies were to receive new meaning by being founded on, or referred to, the natural sciences. In this position Bacon foresaw the re-formulation of those sciences on the basis of evolutionary thought, and paved the way for their eighteenth and nineteenth century development.

Study to be directed toward the investigation of nature

The new tendency given to the intellectual life and to education was away from the formalism of the old learning toward the realism of the new. From dealing with words and abstractions it came to deal with objects and ideas. The tendency of the intellectual life was away from the formulation of closed systems of thought which were satisfied with definitions and abstract formulations. Nor was education directed toward a mastery of words and logical power in handling the syllogism developed through a discipline in grammatical forms, and in "defining," "determining" and "disputing." Intellectually, the new tendency in thought was directed toward the formulation of fruitful principles of interpretation and methods of investigation that could never produce a perfected system of thought. Educationally, it was concerned with the entire realm of the knowledge of nature and of society and with the use of a method

Formalism *vs.* realism was the contrast in education

that would develop in the individual power of dealing with this world of reality.

Many scientists accomplished more, practically, than did Bacon

Bacon himself was not the first, nor the only one of his times, to participate in these tendencies. Copernicus, Vives, Da Vinci and others worked immediately before him; Galileo, Descartes, Kepler, Grotius, Boyle and others along with him. But Bacon of them all seized the whole problem, stated its terms and formulated its equations. In actual solutions he did less than many of the others.

Outline of Bacon's plan:

The first part of Bacon's plan, which was to serve as a model for future intellectual endeavor, was to survey human knowledge in its existing stage. He designed to construct a chart or map of the intellectual world, including not only the previous systems, but also those unknown or barren regions which, though ready for exploration, had rarely been visited by the human mind.

(1) General survey of intellectual achievements of the past

This he did in his *Advancement of Learning*, the only part of his plan even approximately completed.

(2) A new method

The second part of his work was to formulate the method for the investigation of phenomena. This was the determination of the process by which the new edifice was to be erected upon the foundation previously laid. This is the *Novum Organum*, the new method, — induction, — opposed to the *Organon* of Aristotle, which had determined the intellectual methods of centuries. Bacon finished only a part of this work, but sufficient to give a profound and determining influence to all modern thought.

The Educational Influence of Bacon may be briefly summed up under the aim and subject-matter of education, and the new method.

Aim was the reorganization of knowledge to advance human welfare

AIM AND SUBJECT-MATTER. — Bacon's aspiration for a reorganization of the entire realm of human knowledge such as would serve for the improvement of human welfare, by basing it not upon the old literary knowledge which concerned itself with man, but upon the new scientific knowledge which concerned itself with nature, was shared by many philosophers, educators and statesmen of his time. This was the " pansophic " ideal of the

seventeenth century. They held that when knowledge was based upon the uniformity of nature instead of upon the variability of man, it dealt with laws and principles that could be investigated and determined by definite methods, not by guesswork. Moreover, it dealt with forces that could be controlled and used for human progress. Such knowledge must be derived primarily from a study of the phenomena of nature. Only in a secondary sense could it be gained from the language, the literature, the philosophy and the theology of past generations. Education through the schools should secure the dissemination of this knowledge, because when unified it would be within the grasp of every child.

Education t secure dis- semination of knowledg

Within the centuries since the opening of the Renaissance, man's empirical knowledge of the material universe and his power over it had been marvelously expanded. The world of thought had not kept pace with this. The problem, to Bacon, was to expand the intellectual world until it should not only correspond to and keep pace with this development, but should precede it. He considered that it was dishonorable that "the boundaries of the intellectual world should be confined to the discoveries and straits of the ancients." Consequently, study was to be directed toward the phenomena of nature as the only means of bringing about this equilibration between practical opportunity and knowledge. With his followers this new and productive kind of knowledge was to be made the subject-matter of school work. This was because such knowledge was the only real and fruitful knowledge, because such knowledge made up the bulk of the whole pansophic scheme of thought, and because the renovation of society was thus to be brought about. This is the earlier form of sense-realism in education. The principle that knowledge came only through the senses was not yet fully formulated in its modern meaning.

Intellectual advance should precede and direct discovery

Education was now regarded as not merely of religious or practical value to the individual, but was accorded a hitherto unknown social value. Education, as science itself, was with

New social value given to educatio

Bacon but a means to an end, — the dominance of man over things. "Human science and human power coincide." To such knowledge and to such power, there was no limit. If the expectations of these men led by the pansophic ideal appear to us now as wholly visionary, no less so to their own times did those specific instances of the expansion of human power, through knowledge of nature, which were clearly foreshadowed by Bacon and have been realized only in the present.

The ideal education described in *The New Atlantis*

Little explicit reference is made in any of Bacon's works to the particular bearing of his general ideas concerning knowledge on concrete educational work. However, the closing portion of his incomplete Utopia, *The New Atlantis*, is devoted to a description of the ideal educational institution, the investigating university, called Solomon's House. In this work much that universities, scientific departments of governments, and learned investigators now do, and much besides in a scientific way that is yet in the realm of unachieved human aspiration, is foreshadowed. The modification of species, animal and plant; curative methods, through hypodermic serum infusions; the modification of metals, as in steel; the transformation of various forms of energy; the steam engine; communication at a distance, — were some of these remarkable previsions of scientific innovations. Yet even here it is the spirit and the principle rather than the detail that is significant.

The inductive method

METHOD. — "There are," says Bacon, "and can be, only two ways for the investigation and discovery of truth. One flies from the senses and particulars to the most general axioms, and from these principles and their infallible truths determines and discovers intermediate axioms. And this is the way now in use.

serves for the solution of practical problems;

The other constructs axioms from the senses and particulars, by ascending continually and gradually, so as to reach the most general axioms last of all. This is the true way, but it is yet untried." With the old method of thought, the entire process is controlled by its starting point, which is an axiom, a thing given or determined. With the new method, the entire process

is controlled by the goal to be reached, which is a problem to be solved by investigation of particulars. With this method the particulars are discoverable by observation, not given by authority; the problem is solved and the principles are determined by induction. The practical goal, beyond the scientific problem, is reached by the application of the principle through the deductive process to the practical problem. The result is an invention, — the practical application of knowledge to human welfare and power. This is the complete circle of Baconian thought involving both methods. Only the deductive method is secondary.

not the exclusive method;

Striking advance had been made in Bacon's time and most of it had come as a result of accidental discovery, as with the compass, gunpowder, the telescope and the printing press. Bacon aimed to change this chance to design. "For chance works rarely and tardily and without order; but art constantly, rapidly, and in an orderly manner." The new method, the art of discovery, was formulated in the *Novum Organum*. Bacon stated the logic of the new thought, as Aristotle did that of the old. The goal which Bacon held to be of sole value was power over nature. Knowledge of nature was the source of all such power. Observation, investigation, experimentation, was the sole method of reaching that knowledge. This knowledge could not be obtained by the old scholastic method, that of definition and of the syllogism. These methods were valid enough for the truths which they sought, but the truths thus discovered were to Bacon not worth the search. Nor did Bacon hold to the nominalistic formula, "only that is in the intellect which first is in the senses," or to its modern restatement as a determinant of all method; for he held that the senses unchecked were particularly unsafe guides. Neither the senses, as seen in the case of a test of temperature, nor the understanding, as in the long-accepted Ptolemaic explanation of the motions of the earth and the sun, are safe guides when left to themselves. Truth is not reached by the mere accumulation of

formulated in the *Novum Organum*

Included observation, investigation and experimentation

Results to be tested by the "negative instance"

similar instances. A generalization reached inductively is not valid unless tested by the "negative instance"; for one such instance to the contrary will counterbalance the weight of any number of a positive character in the establishment of a universal law or principle such as are those of nature.

Bacon's "idols" or obstacles to truth

The difficulties in the way of the employment of the proper method and the discovery of knowledge worthy of human endeavor, Bacon termed "idols" (*Novum Organum*, xxxix). He classified them as idols of the tribe, those that "have their foundation in human nature as such, and in the tribe and race of men"; idols of the den, or the personal bias of the individual; idols of the market place, or those which arise from the manners, customs and usages of men in their social intercourse; and idols of the theater, those which depend upon doctrines, dogmas and traditions. Now invention and progress are only secured by an interpretation of nature without the intervention of any of these idols, consequently only by the scientifically guarded inductive method. Then we come to know things as they really are, not merely as popularly represented. This is the aim of science, of philosophy, of education.

Educational application of the new method made by Bacon's followers

But this method has one more scientific relation to educational work, made not by Bacon, but his followers. Bacon in his method was not thinking of the subjective process, the psychological bearing of his great idea, but merely of its objective value. He was concerned in showing how the race as a whole could come into the possession of that knowledge which would be of permanent benefit to itself, and in indicating the tests of real knowledge. But in showing how it is that we know, he by inference indicated how it is that the individual comes to know and also how the individual should be taught. Bacon himself was interested primarily in the subject-matter of thought and the possible outcome of it; only secondarily in the process of thought. But as method elaborated by Bacon revolutionized the scientific knowledge of the race and led to unprecedented progress, so its educational application, as made by his followers, in time

revolutionized school method. The specific application of these we are to see later.

A formulator, not a discoverer

Bacon's Place in Education, as in the history of human thought, is usually either much exaggerated or undervalued. On the one hand he was not the discoverer of a new method of thought, for he had predecessors as well as colaborers. He formulated this method, however, showing that hitherto nature had been rather anticipated by happy chance than interpreted by certain method. Nor on the other hand was he a man who simply repeated what was a time-worn familiarity with all great thinkers. He showed that, while all men have experience and guide their conduct by it, experience not scientifically tested has far less value than explicit discovery through scientific method. Nor is he to be charged with the narrowness of some of his followers in exalting one phase of the thought process to the exclusion of all others, or identifying the test of knowledge with the source from which all knowledge is obtained.

Ratke first applies the Baconian principles to educational methods

Wolfgang Ratke[1] (Ratichius or Ratich), who lived from 1571 to 1635, first formulated in educational terms those ideas concerning the new subject-matter of study and the new methods of investigation that were a part of the new spirit of the early seventeenth century and were first definitely formulated by Bacon. In an address to the Diet of the German Empire at Frankfort, in 1612, Ratke claimed: (1) By his new method to be able to teach Latin, Greek and Hebrew tongues more thoroughly and in a much shorter time than had hitherto been devoted even to the one; (2) by use of the vernacular as the basis for instruction, to give to all children a thorough knowledge of all the arts and sciences; (3) through the continual use of the vernacular and the new methods to bring about the use of one language among all the German people in place of the multitudinous dialects, and thus to lay the basis in the uniform language for uniformity in

[1] A more adequate treatment is given in the translation of Von Raumer, in Barnard's *German Teachers and Educators*, pp. 319–347. This is condensed in Quick's *Educational Reformers*, Ch. IX.

Not practically successful

religion and ultimately for uniformity in government. Ratke failed, however, of the success in the practical application of his ideas that he attained in their theoretical presentation on account of defects in his character and in his personality.

The "order of nature" the basis of his reforms

The thought underlying all the other principles was that everything should be done in its natural order, or in the course of nature. "Since nature uses a particular method, proper to herself, with which the understanding of man is in a certain connection, regard must be had to it also in the art of teaching; for all unnatural and violent or forcible teaching and learning is harmful, and weakens nature." While this was a direct attempt at a general method, it was not based upon psychological principle. It was founded rather upon general and often artificial comparisons with the phenomena of nature, or upon purely superficial resemblances between the processes of the mind and the processes of biological development in plant or in animal.

Summary of Ratke's principles

Some others of Ratke's principles, important as reformatory influences and as permanent truths, can only be suggested: each thing should be oft repeated; everything first in the mother tongue; everything without compulsion; nothing should be learned by rote; mutual conformity in all things (*i.e.* comparative grammatical study of the languages); first the thing itself, and afterward the explanation of the thing; all things through experience and investigation or experiment. The last of these contains the essentials of the Baconian reforms; the next to the last, the essentials of the Pestalozzian reforms; all of them are foreshadowings of the Comenian reforms.

Immediate influence of Comenius confined to his text-books

John Amos Comenius (1592–1670). — Whether considered from the point of view of theoretical writings or from that of direct treatment of schoolroom problems, Comenius is one of the most important representatives of the realistic movement as well as one of the leading characters in the history of education. Nevertheless, his actual influence on his own and the following generations was slight save in one respect. This was in the use of a more scientific method of teaching the

languages embodied in the Comenian text-books. For almost two centuries even the very knowledge of his most important educational writings ceased to exist. Consequently, they had little or no influence upon later educational reformers until the time of Froebel. Few biographies of educational leaders possess more interest; but reference to several excellent works of recent publication must answer as a substitute for a study of the life of Comenius in these pages.[1]

Ultimate purpose of education found in religion

Purpose of Education. — "The ultimate end of man is eternal happiness with God," Comenius stated as the primary principle of the *Great Didactic.* The purpose of education was to assist in attaining this great end. So far, all the educators of these centuries agreed. But it was in the conception of education as a means that they differed so widely. Hitherto education strove for this end by attempting to eradicate the natural desires, instincts and emotions, and by furnishing an appropriate mental and moral discipline. Comenius worked along an entirely new line, one that ultimately became the path of modern educational endeavor, though with fundamental purposes formulated somewhat differently. With Comenius the ultimate religious end was to be obtained through moral control over one's self, and this in turn was to be secured by knowledge of one's self, and consequently of all things. Knowledge, virtue and piety, in this order of their acquisition, were the aims of education. What Sturm and the Reformation educators propounded as isolated ends, Comenius unified in a logical and psychological relationship, and gave a radically different interpretation of the initial element, — knowledge, — the one element relating directly to the school. This advance, however, was so radical that it affected vitally every phase of education, — content, organization, method and text-books.

But a radically different conception concerning how these ends were to be reached

Emphasis on knowledge of things

Content of Education. — This change respecting the subject-matter of education can best be presented through an explana-

[1] Quick, *Educational Reformers*, Ch. X; Monroe, W. S. *Comenius;* Keatinge, *The Great Didactic*, Introduction; Quick, *Comenius.*

tion of the great purpose and endeavor of the entire life of Comenius. His religious activity and his contributions to the improvement of schoolroom procedure were immediate duties which he did not shirk. But both were of subordinate importance when compared with his greatest aspiration; namely, the complete reorganization of human knowledge, along Baconian lines, with the consequent expansion of that knowledge and of human power and happiness. This pansophic movement of the seventeenth century produced many notable attempts at reorganization. Of these the *Advancement of Learning* of Bacon and the *Encyclopedias* of Henry Alsted and of Campanella were notable examples. Probably both Alsted and Campanella had greater influence on Comenius than did Bacon. This idea of the encyclopedic organization of human knowledge was a common one throughout the Middle Ages; but the execution attempted by Comenius and by the pansophic writers of the sixteenth and seventeenth centuries was quite different. Comenius's aim was to give "an accurate anatomy of the universe, dissecting the veins and limbs of all things in such a way that there shall be nothing that is not seen, and that each part shall appear in its proper place and without confusion." Previous encyclopedias had been mere collections of facts; his was to be an arrangement of facts around universal principles, so that in all the arts and sciences, starting from the essential point of the universal law as a basis, study could proceed from what is best known, by slow degrees, to what is less familiar, until all knowledge was compassed. So in the text-books of Comenius, each chapter and each paragraph leads up to the next, and thus embodies his universal principle of method.

The encyclopedias of the seventeenth century

Comenius arranges his encyclopedic writings on the inductive principle

The knowledge of physical phenomena was, for him, the most important object of study, and the main influence of his teachings in respect to subject-matter was the introduction of such material into the school-books actually used, together with the exposition of this idea in all his works.

Natural phenomena of fundamental importance in these

Method. — The general thought of a method "according to

nature," which Comenius advocated and applied throughout all his writings, must be distinguished from that particular part of it which approximated the Baconian induction and formed the basal idea of his text-books. Comenius argued that Bacon's method was competent to distinguish truth from falsity, but that it applied only to natural phenomena, while pansophy considered the entire universe. In the introduction of his first pansophic work he states that the three channels through which knowledge comes to us are the senses, the intellect and divine revelation; and that "error will cease if the balance between them be preserved." In *The Great Didactic* Comenius specifically states that the principles of that work were formulated *a priori* and does not even mention Bacon in the entire work. Essences and principles find place in his philosophy as in that of the fantastic pseudo-scientists of the Middle Ages. In his *Physics* the world is constituted from the three principles of matter, spirit, light; while the "qualities" of all things are consistency (salt), oleosity (sulphur), and aquosity (mercury). Yet despite these survivals of the mediæval, he stands distinctly for the study of natural phenomena and the dependence upon sense perception as the source of knowledge concerning nature.

Inductive method used only partially;

held to be insufficient

Notwithstanding this partial grasp of the significance of the inductive method when applied to the investigation of natural phenomena, when it came to the practical problems of instruction in the schoolroom, Comenius did clearly see the importance of the new method and first applied it to the actual processes of instruction. This is a field where Bacon was much more of a stranger than was Comenius in the realm of the larger philosophical and scientific problems. In the chapter on the *Method of the Sciences* Comenius states nine principles of method, which must have grown out of his own long experience as a teacher. It was the concrete embodiment of these ideas that led to the remarkable success of the text-books and to the beginning of radical reforms in schoolroom work. They are stated thus:—

Insight into practical schoolroom problems

Summary of principles of method

1. Whatever is to be known must be taught (that is, by presenting the object or the idea directly to the child, not merely through its form or symbol).

2. Whatever is taught should be taught as being of practical application in everyday life and of some definite use.

3. Whatever is taught should be taught straightforwardly, and not in a complicated manner.

4. Whatever is taught must be taught with reference to its true nature and its origin; that is to say, through its causes.

5. If anything is to be learned, its general principles must first be explained. Its details may then be considered, and not till then.

6. All parts of an object (or subject), even the smallest, without a single exception, must be learned with reference to their order, their position, and their connection with one another.

7. All things must be taught in due succession, and not more than one thing should be taught at one time.

8. We should not leave any subject until it is thoroughly understood.

9. Stress should be laid on the differences which exist between things, in order that what knowledge of them is acquired may be clear and distinct.

Text-books based on practical experience and theoretic views

Text-books. — Comenius had been a student of education from his early school days. He began to teach upon leaving the university, and later combined the supervision of schools with his pastoral work. Even when nearly sixty years old (1650) he returned to the directorship of the gymnasium. Consequently his text-books were not the work of a mere theorist, but of one who combined, as no one before him had ever done, a theoretical knowledge of educational problems, derived from contemplation and from study, with the practical experience of the schoolroom.

Importance of the *Janua Linguarum*, the earliest successful embodiment of the new principles

In 1631, the year before the completion of the *Didactica Magna*, Comenius published the *Janua Linguarum Reserata*, or *Gate of Languages Unlocked*. This was his most famous book and alone would have made him a notable character in his own century. For many generations the schoolboys of three continents thumbed this book as their primer to the languages instead of the Donatus and Alexander of preceding generations. And very different from these it was, though in some respects

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Geometry. **CV.** ***Geometria.***



A Geometrician
meaſureth the height *of*
a Tower, 1. . . . 2.
or the diſtance
of places, 3. . . . 4.
either with a Quadrant, 5.
or a Jacob's-ſtaff, 6.
He marketh out the
Figures of Things,
with Lines, 7.
Angles, 8.
and Circles, 9.
by a Rule, 10.
a Square, 11.
and a pair of Compaſſes, 12.
Out of theſe ariſe
an Oval, 13.
a Triangle, 14.
a Quadrangle, 15.
and other figures.

Geometra
metitur *altitudines*
Turris, 1. . . . 2.
aut *diſtantias*
Locorum, 3. . . . 4.
ſive *Quadrante*, 5.
ſive *Radio*, 6.
Deſignat.
Figuras Rerum
Lineis, 7.
Angulis, 8.
& *Circulis*, 9.
ad *Regulam*, 10.
Normam, 11.
& *Circinum*, 12.
Ex his oriuntur
Cylindrus, 13.
Trigonus, 14.
Tetragonus, 15.
& alia figura.

A PAGE FROM THE ORBIS PICTUS

From the twelfth English edition (London, 1777). Identical with p. 145 of the first American edition (New York, 1810).

not much less difficult. The plan of the book was simple and "natural." Starting with several thousand of the most common Latin words referring to familiar objects, the plan was to arrange them into sentences, beginning with the simplest and becoming progressively more complex, and in such a manner that a series of related subjects would be presented, the whole presenting a brief encyclopedic survey of knowledge as well as affording a vocabulary and a working knowledge of simple Latin. Each page gave in parallel columns the Latin sentence and the vernacular equivalent. The instruction dealt with material that, in its elementary form at least, was within the experience of the child.

Contents of the *Janua*

This text will give a fair conception of the pansophic ideal as well as the new tendency in the subject-matter of education. The one hundred different chapter headings included such subjects as these, introduced in the order given: Origin of the World, the Elements, the Firmament, Fire, Meteors, Water, Earth, Stones, Metals, Trees and Fruit, Herbs and Shrubs, Animals (in several chapters); Man, His Body, External Members, Internal Members, Qualities of the Body; Diseases, Ulcers and Wounds; External Senses; Internal Senses; Mind, The Will, The Affections; The Mechanic Arts (in several chapters); the Home and its Parts; Marriage; the Family, State and Civic Economy (in several chapters); Grammar, Rhetoric, Dialectic and the various branches of knowledge; Ethics; Games; Death, Burial, Providence of God; the Angels. Care was taken that every grammatical structure should be presented so that a complete grammatical knowledge would be developed inductively by the skillful teacher.

Other language texts

In 1633 Comenius published the *Vestibulum* (*Entrance Hall*) as an easy introduction to the *Gate*, which, though far simpler than the previous formal grammatical texts which were impossible of any mastery save a verbal one, had yet proved too difficult for beginners. Later, additional texts were added. The *Atrium* was an expansion of the *Janua*, following the same

plan, treating of the same subjects in greater detail, and also giving more attention to grammar. An accompanying grammar written in Latin was now to be used. In the final book of the series, the *Palace* or the *Thesaurus*, a summary of Latin literature was given. Through selection of various portions of Cæsar, Sallust, Cicero, etc., the substance of this literature, especially as it dealt with subjects of interest from the Comenian point of view, could be given with the omission of much of the material objectionable to Comenius and certainly detrimental as used in the colloquies and school presentations of the times.

Orbis Pictus or the first successful illustrated text-book

The most remarkable and most successful of all the Comenian texts was an adaptation of the *Janua Linguarum*, the *Orbis Pictus Sensualium*, published in 1657. In this text the method of dealing with objects instead of with mere symbols or words was carried to its logical conclusion in the introduction of the objects themselves by means of pictures. The *Orbis Pictus* — *The World of Sensible Things Pictured* — was of great importance merely as the first illustrated text-book for children. But its method of dealing with things and of leading by inductive process to a generalized knowledge, was yet more important. While the text was substantially that of the *Janua*, each chapter was headed by a rather complicated picture in which the various objects were numbered with reference to specific lines in the text. A page of this remarkable text is reproduced as indicating in a concrete way, when compared with any of the Latin grammars then in ordinary use, all the revolutionary educational ideals of Comenius.

System of schools: Kindergarten;

The Organization of Schools. — One other phase of these educational ideas deserves brief mention, that is, the organization of schools. In this respect, as well as in those previously noticed, Comenius was quite two centuries ahead of his contemporaries. Two grades of school were to precede the gymnasium: first, the infant school; second, the vernacular school. Previous to the writing of the *Didactica*, Comenius had written *The School of the Mother's Knee*, in which there is a remark-

Elementary; able foreshadowing of the kindergarten. The purpose of the book was to indicate to mothers how they could care for the early education of their own children. The pansophic ideals control even here. Not only was the infant to be cared for physically and to be trained in games, sports and manners, but he was to be instructed in history, geography, even metaphysics, as well. But by these high-sounding names Comenius meant a very feasible and desirable thing; namely, that the child's simple experience as to locality, time and causal relationship of many events could be and should be made quite definite even before the sixth year. All this was independent of formal instruction by means of books. The Vernacular School should comprise the period from the sixth to the twelfth years. It was rather a substitute for than a preliminary to the gymnasium, and was designed for those who could not obtain the higher education. As to method and subject-matter, this school resembled the Latin School, which followed. Above the secondary, or Latin, school was to come the University, where every subject could be pursued as in the gymnasium. Above the University, reversing the use of terms as we now employ them, was the College of Light, an institution for scientific investigation of every subject, similar to the Solomon's House of the *New Atlantis*.

Latin grammar, college and university

His systematic treatise on education

The Great Didactic. — Though Comenius has more than a hundred treatises and text-books to his credit, yet they are all summed up in his one great theoretical treatise which was one of his earliest educational writings. The *Didactic Magna* was completed by 1632, though not published in a Latin translation until 1657, and not printed in the language in which it was written until the middle of the nineteenth century. This work is certainly one of the most remarkable educational treatises ever composed. Though essays or books on didactics were among the most numerous of the publications of those times, *The Great Didactic* is a striking variant from the ordinary type. Both its ideas or principles and its arrangement are modern. On the

Contains the germs of all modern pedagogy

contrary, the form in which the ideas are expressed, as well as the particular interpretations of the method used, are thoroughly colored by the theological character of the age and by the professional training of the author. Yet so sane and far-seeing are the precepts of this work that it may now be read with greater immediate profit to the teacher, sufficiently intelligent to avoid many minor errors, than the majority of contemporary educational writings. So broad a foundation is laid for the educational development of the succeeding centuries that it is quite worth while, in conclusion, to give the entire table of contents.

Table of contents of *The Great Didactic*

1. Man is the highest, the most absolute, and the most excellent of things created.
2. The ultimate end of man is beyond this life.
3. This life is but a preparation for eternity.
4. There are three stages in the preparation for eternity: to know one's self (and with one's self all things); to rule one's self; and to direct one's self to God.
5. The seeds of these three (learning, virtue, religion) are naturally implanted in us.
6. If a man is to be produced, it is necessary that he be formed by education.
7. A man can most easily be formed in early youth, and cannot be formed properly except at this age.
8. The young must be educated in common, and for this schools are necessary.
9. All the young of both sexes should be sent to school.
10. The instruction given in schools should be universal.
11. Hitherto there have been no perfect schools.
12. It is possible to reform schools.
13. The basis of school reform must be exact order in all things.
14. The exact order of instruction must be borrowed from nature.
15. The basis of the prolongation of life.
16. The universal requirements of teaching and of learning; that is to say, a method of teaching and of learning with such certainty that the desired result must of necessity follow.
17. The principles of facility in teaching and in learning.
18. The principles of thoroughness in teaching and in learning.
19. The principles of conciseness and rapidity in teaching.
20. The method of the sciences, specifically.

21. The method of the arts.
22. The method of languages.
23. The method of morals.
24. The method of instilling piety.
25. If we wish to reform schools in accordance with the laws of true Christianity, we must remove from them books written by pagans, or, at any rate, must use them with more caution than hitherto.
26. Of school discipline.
27. Of the fourfold division of schools, based on age and acquirements.
28. Sketch of the Mother-School.
29. Sketch of the Vernacular School.
30. Sketch of the Latin School.
31. Of the University, of traveling students, of the College of Light.
32. Of the universal and perfect order of instruction.
33. Of the things requisite before this universal method can be put into practice.

EFFECTS OF SENSE-REALISM ON SCHOOLS. — At any time, the response made to educational theory by the concrete practices of the school is necessarily slow and indirect, for those who formulate the advanced theory are seldom those who control the schools. The practical administrator is ever loath to be considered a theorist, that is, one recognizing a new theory instead of practicing an old one; and the teacher is ever loath to assume new burdens or form new habits, in learning to do old things in a new way.

Leaders of this movement had little connection with universities

On the other hand, Ratke, Comenius, even Bacon, were merely exponents of a thought movement that was affecting many; they were leaders in the formulation of the new thought rather than originators of it. As with these men, so with the other leaders of advanced thought of the seventeenth century, their work was performed outside of the university, which had little sympathy with the new thought. Neither Descartes, Hobbes, Locke or Leibnitz of the philosophers, nor Harvey and Boyle of the scientists, nor Bacon as representative of both philosophy and science, were in close contact with the universities. So it was in the secondary schools and in independent institutions that the new ideas were realized. In 1619 the first

academy of natural science was founded at Rostock. Under Frederick the Great (r. 1740–1786) the Berlin Academy became a powerful exponent of the new thought.

The old Renaissance schools for the nobles early affected by the realistic movement

After the close of the Thirty Years' War (1648), the old academies for the nobles (*Ritterakademien*, see p. 183) again became influential, and now as exponents of the new ideas, rationalistic and practical, as opposed to the scholastic formalism of university and gymnasium. This, however, was a foreign culture which did not affect at all the masses of the people. Here realism found its first exposition, based more upon the social-realism of Montaigne and the popular ideals of the French aristocracy, then dominant throughout Europe, than upon the scientific realism of Bacon and Comenius.

From the middle of the seventeenth century, the text-books of Comenius had come into common use in the gymnasien of the German cities, but rather as aids to Latin study than for their scientific content. The first schools to embody the realism of Comenius, emphasizing more the religious than the scientific side, were those of the pietistic movement as it centered around Hermann Francke (1663–1727) and Spener (1635–1700). Pietism was a reaction quite as much against the profligacy and extravagance of rationalism as typified in the *ritterakademien* as against the formalism of the classical schools. But the rationalistic and the pietistic schools were at one in their opposition to the dominant classicism and formalism, and in their advocacy of the realistic studies and the use of the vernacular.

The pietistic movement and the schools of Francke embody the realistic spirit

Beginning in 1692 Francke established, at Halle, a group of educational and charitable institutions of very wide scope and of extended influence. With a constituency drawn wholly from the middle and lower class people, — a large orphan asylum was a part of the institution, — Francke aimed to combine a practical preparation for life and a religious influence with a school training necessarily strong in the realistic studies. His achievement was a demonstration of Comenian ideals; a combination of Christianity and practical training, with formal

school work. A seminary for the training of teachers, instituted as a part of his general foundations, assisted materially in the spread of his ideas in many schools, especially those of Prussia, both of old and new foundations.

The beginnings of the real-schools of Germany

The Real-Schools (Real-Schulen) of Germany, which embody most completely the realistic educational movement, date from 1747. In this year Hecker, a pupil of Francke, established at Berlin a school, the curriculum of which included the German, French and Latin languages, writing, drawing, history, geography, geometry, arithmetic, mechanics, architecture, religion and ethics. Within a comparatively short time the leading commercial cities of the German countries established similar schools. During the later part of the century, under the influence of the "naturalistic" movement (Chapter X), these schools were incorporated as a component part of the German school system.

The dissenting academies of England were an expression of the same theory of education

The Academies in England. — In England the introduction of the "real studies" was bound up with the history of the "academies" which were developed by the nonconforming churches. The beginning of this movement is connected with the humanistic realism of Milton, who styled the institution described in his *Tractate* an academy. With the downfall of the Puritan protectorate and the restoration of the Stuart monarchy, the dissenting clergymen, some two thousand in all, were expelled from their parishes (1662), and shortly afterward the dissenters were excluded from the public schools and the universities. This gave both a teaching staff and a constituency to a new type of educational institutions. For a time these had but an indefinite organization and unsubstantial existence, but after the toleration act of 1689 they became a definite part of the English educational scheme. Though these, as well as all other educational institutions of England, had only an ecclesiastical and private support, they continued to perform an ever widening function in the educational life of the people. With the disappearance of religious disabilities, they became indistinguish-

able, as a type, in the multiplicity of secondary schools during the early nineteenth century.

As was to be expected, the founders of these institutions of the seventeenth and eighteenth centuries had little sympathy with the narrow and restricted education that had produced their illiberal persecutors. Hence, the new institutions provided for a much broader training through a curriculum that included many of the new " real " studies. Preparation for the ministry was yet an important, though by no means the exclusive, purpose of these schools; hence the classical languages formed a prominent part, if not the foundation, of the course of study. To these were added a variety of subjects, varying with the institution, including French, Italian, Hebrew, logic, rhetoric, ethics, metaphysics, history, economics, oratory, theology, natural philosophy, anatomy, geography, geometry, algebra, surveying, trigonometry, conic sections, celestial mechanics and even shorthand. One subject that was given especial emphasis in all of these institutions was that of English, and the instruction in all of the subjects came to be given in the vernacular. Of one academy it is specified that in addition to the usual curriculum " all the classes were exercised at times in land surveying, dialling, making almanacks, and dissecting animals."

Subjects studied in the academies

Such institutions took the place of both secondary schools and universities for the nonconformists, and offered a more direct preparation for the practical occupations of life than did the classical public schools. For the Church, the university and the state, however, the old type of institutions yet served exclusively.

In America. — With the growth of the minor dissenting bodies in the American colonies a similar, though until the middle of the eighteenth century a more rudimentary, institution grew up. These bodies were especially strong in the middle colonies, and there these new institutions found a home. Even in New England the Latin grammar schools began to make provision for the practical economic interests of the people. In most of the seaport towns of all the colonies, branches of practi-

Realism finds expression in America through the denominational academies

cal mathematics, especially surveying and navigation, were introduced by the middle of the eighteenth century. Not until this later period, however, was a typical " real-school " introduced and the term *academy* used. This was the "Academy and Charitable School of Pennsylvania," later the University of Pennsylvania, which was suggested by Benjamin Franklin in 1743 and opened in 1751. Three schools were included in this academy, a Latin, an English and a mathematical. Franklin's writings exalted practical economics into a philosophy of life, and did much to further a scheme of education which had much in common with the educational theories of the sense-realists. While the philosophical basis might have been quite different, in its concrete embodiment it was almost identical with the " real-school " of Germany. After the Revolutionary War, the academies became the typical educational institutions of the American states. By this time several other momentous forces, besides the realistic educational philosophy, were at work to produce revolutionary changes in education.

Franklin's "Academy of Pennsylvania"

The Universities responded much less quickly than the secondary institutions to the new educational ideas. The theological-classical scholasticism controlled the German universities throughout the seventeenth century. But in 1694 the University of Halle was founded, chiefly as a protest against the narrowness of the old institutions. Halle is considered the first modern university, for here first were the " real " subjects taught, with the new methods and in the modern tongue. Francke and Thomasius, both of whom had been expelled from Leipzig because of their too liberal ideas, made Halle the center of the new influence. The custom of using German in the university lecture room, introduced by Thomasius, who also published the first German magazine, soon gained adherents; so also did the university teaching of the natural sciences and a more liberal philosophy. In fact, the German university ideal of " freedom of teaching and freedom of study " first found its embodiment in the foundation of Halle. In 1737 the Univer-

Response of the universities slow

University of Halle, 1694, the first modern university

German university reform

sity of Göttingen became a second center of these same influences. By the close of the century the conquest of all the universities, at least of Protestant Germany, was accomplished. The conservative English universities responded much less quickly and much less thoroughly to the new influences. During the professorship of Isaac Newton (1669–1702) and the headmastership of Richard Bentley (1740–1742), Cambridge was given the strong mathematical bent which it has since retained, and the mathematical and physical sciences were fostered. During the eighteenth century a number of regius professorships in history and the sciences were founded by the Georges. But there was no such renovation of the university by the new spirit, as in Germany, until late in the nineteenth century.

English university reform much later

SUMMARY

The realistic movement is the developmment of the interest in nature found in the Renaissance of the fifteenth and sixteenth centuries. During the seventeenth century this interest received philosophical and scientific formulation. At this time modern science and modern philosophy began. Educationally, however, there were two preliminary stages. One was the Humanistic Realism, or the study of the classics for their content value. This was but a continuation of the idea of a broad liberal education of the early Renaissance. It is best represented by Erasmus, Rabelais, and Milton. The other was Socialism-realism, or immediate education for the practical duties and pleasures of life. This view held schools and literary training in low esteem and exalted travel and direct contact with the world as the proper educational means. While this conception of education had found some representatives at all times, it had peculiar force throughout the sixteenth, seventeenth and eighteenth centuries and is best expressed by Montaigne. Sense-realism was the beginning of the modern scientific movement in education, although it contained the germ of the psychological and sociological movements as well. Bacon first clearly formulated the theory; Comenius gave it practical pedagogical embodiment. However, there were many representatives of the movement in every country. The German real-schools and the English and American academies were the institutional embodiment of this theory.

CHAPTER IX

THE DISCIPLINARY CONCEPTION OF EDUCATION. JOHN LOCKE

The narrow humanistic education ceases to have a functional or social value

ORIGIN OF THE MODERN DISCIPLINARY CONCEPTION. — With the Reformation, Latin ceased to be the language of religion and of the clergy; similarly, during the later seventeenth century, it ceased to be the exclusive language of the universities, of the schools and of learning. Even before this time it had been superseded by French as the language of diplomacy and of the courts. When, with the development of the vernacular literatures, it ceased to be the language of culture and of the humanities as well, Latin could no longer dominate the schools upon the same basis and for the same reasons that it had done hitherto. But by the seventeenth century the linguistic and literary curriculum had become traditional, with the authority of the learning of two centuries behind it. Moreover it had developed a scholastic procedure which in details of method and of curriculum, and in the entire technique of the schoolroom, had never been equaled by any previous system of educational practice. In fact, it has had no equal since. Now perfection in the technique of schoolroom procedure is no justification for a system of educational practice. Yet, since it has behind it to give it stability, both the force of tradition and the most tenacious professional conservatism, it is the strongest influence working for such a system.

By the seventeenth century it had become traditional and its technique had become perfected

A new theory must be found to justify its perpetuation

Consequently, since this narrow humanistic education no longer had any direct connection with the practical demands of the times and no longer offered the sole approach to a knowledge of human achievement and thought, a new theory must be

found to justify its perpetuation. This new theory was the disciplinary conception of education.

FEATURES ESSENTIAL TO THE CONCEPTION. — The essence of the disciplinary conception of education can be given in a few words; namely, that it is the process of learning rather than the thing learned that is the important and determining thing in education.

Greater relative importance of the process than of the thing learned

The disciplinary conception takes a great variety of forms. But substantially they unite on the one point, namely, that a particular activity or experience, especially of an intellectual character, if well selected, produces a power or ability out of all proportion to the expenditure of energy therein. Such a power when developed will be serviceable in most dissimilar experiences or activities, will be available in every situation, and will be applicable to the solution of problems presented by any subject. More specifically the theory asserted that one or two subjects, thoroughly taught and mastered, were of much greater educational value than a variety of subjects demanding the same amount of time and energy. The disciplinarians believed that those subjects which, through the generality of their principles, such as mathematics and logic, or through the formal nature of their content and arrangement, such as the classical languages, furnished a formal training for the various "faculties" of the mind, were of supreme importance educationally. This value belonged to such subjects irrespective of their relation to life or of their final mastery or use by the pupil. It was further implied, so far as the period of complete dominance of this theory was concerned, that these subjects were peculiarly adapted to the development of the memory and the reason, and that these "powers of the mind" were preëminently the ones demanded for success in any walk of life.

A general power derived from certain special activities

One or two subjects thoroughly mastered will secure the aims of education

"Faculties" of memory and of reason were held to be of especial importance

DEVELOPMENT OF THE CONCEPTION. — In respect to its fundamental principle, the new education was but a revival of the formalism of mediæval scholasticism. To the elaboration

Influence of the social changes of the sixteenth and seventeenth centuries

of the theory a number of factors contributed. The general social changes (p. 254) were in themselves the most important of these factors. The new realism emphasized even more strongly than had the early Renaissance thought with reference to the old scholasticism, that the important thing educationally was the thing learned, not the process of learning. The narrow humanistic education now adopted, in addition to the arguments advanced as peculiar merits of its own, all those formerly used for the scholastic education.

Support of disciplinary education by religious beliefs

In the second place, the disciplinary education, as it represented the continuation of the narrow humanistic education, yet retained the almost undivided support of those who viewed education from the religious standpoint. As is evidenced in the attitude of the Church toward most of the leaders of the realistic tendency, notably Descartes, Bacon and even Comenius, that movement was looked upon as irreligious and atheistic. But from a yet more general reason, and that a pedagogical one, the religious view supported the disciplinary conception.

The religious view of education was the disciplinary one

In fact, since it looked upon education as one process of eradicating the essentially evil character of human nature, the religious view of education on its pedagogical side was the disciplinary one. On the ethical side, then, religious thought furnished the theory of the disciplinary education.

Support of disciplinary education by the current Aristotelian psychology

On the psychological side, so far as that entered into the educational thought of the times, the disciplinary conception received the support of the current belief. This was the old Aristotelian faculty psychology, with its mediæval implications, which demanded a training of the various faculties of the mind by appropriate disciplines formulated into schoolroom procedures. No subject afforded better facilities for this than the formal side of language study, unless it was the mathematical branches to which, consequently, greater importance was now attached than formerly.

Even the new psychology of sensationalism did not oppose the disciplinary view

Even the new psychology of Bacon and Locke, so far as their theory of knowledge formulated a psychology, contributed to the prevailing disciplinary

view. At least Locke made it so contribute, as will be seen subsequently. While the doctrine of innate ideas was rejected by these men in favor of experience, training in sense perception did not supersede nor make unnecessary the training of the higher *faculties*. In either case, so far as the popular view went, the training was to be a " discipline."

Survival in the faculty psychology to the present time

So persistent has been this narrow disciplinary view that even when the old rational psychology, based upon introspective analysis, began to give way or to be supplemented by a conception of the mind based upon a study of its development, education was still viewed as a process of developing the " powers " or " faculties " of the mind through appropriate discipline. This is to be seen in the case of Pestalozzi (p. 312), who first represents this newer view in practical educational work. Nor was the case different when the natural sciences began to find a place in the work of the schools; for the pursuit of such studies was most frequently justified by the arguments for their disciplinary value (p. 225). Such undoubtedly has been the popular view; the general public believed, at least in regard to a college course, that " the great problem in education is how to induce the pupil to go through with a course of exertion, in its results good and even agreeable, but immediately and in itself irksome."

Support found in nineteenth century scientific tendency also

The great opposition to the disciplinary view developed during the nineteenth century as an outgrowth of the naturalistic teaching

THE CONTRAST OF TWO MODERN VIEWS. — The nature as well as the force of the disciplinary conception of education is best seen by placing it in opposition to an equally one-sided view of education, but one that, on the contrary, places the whole emphasis on the thing learned rather than upon the process of learning. A nineteenth century writer, Fouillée, in his argument for the disciplinary education of the classics as opposed to the content or practical education of the modern sciences, contrasts these views as follows: —

Huxley proposes to make the natural and physical sciences the basis of education. Spencer, in his turn, by a kind of idolatry of science which is widespread in these days, makes of positive science almost exclusively

Criticism of the opposition offered to the disciplinary view by modern sciences, found in Fouillée's *Education from the National Standpoint*, pp. 36, 37

the subject for youth, under the pretext that, in this life, geometry is necessary for the construction of bridges and railways, and that in every definite trade, even in poetry, we must have *knowledge*. How conclusive is poetry as an instance! Is a Virgil or a Racine made by learning rules of versification? The scientific man is not made by teaching him science, for true science, like poetry, is invention. We can learn to build a railway by rule of thumb, but those who invented railways did so only by the force of the intellectual power they had acquired, and not by the force of the mere knowledge they had received; it is therefore intellectual force that we must aim at developing. And then returns the question: Is the best means of strengthening and developing the intellect of our youth, to load the memory with the results of modern science, or is it to teach them to reason, to imagine, to combine, to divine, to know beforehand what *ought* to be true from an innate sense of order and harmony, of the simple and the fruitful, — a sense near akin to that of the beautiful? And, besides, are youths educated to be engineers, or poets? Education is not an apprenticeship to a trade, it is the culture of moral and intellectual forces in the individual and in the race.

On the other hand, Huxley answers this argument by showing, in somewhat satirical language, that the sciences could be so arranged and so taught as to give a disciplinary training similar to that given in his times in the public schools. Then he says: —

Huxley's criticism of the disciplinary conception, found in "A Liberal Education," (in *Education and Science*, pp. 98, 99)

It is wonderful how close a parallel to classical training could be made out of that palæontology to which I refer. In the first place I could get up an osteological primer so arid, so pedantic in its terminology, so altogether distasteful to the youthful mind, as to beat the recent famous production of the headmasters out of the field in all these excellencies. Next, I could exercise my boys upon easy fossils, and bring out all their powers of memory and all their ingenuity in the application of my osteogrammatical rules to the interpretation, or construing, of those fragments. To those who had reached the higher classes, I might supply odd bones to be built up into animals, giving great honor and reward to him who succeeded in fabricating monsters most entirely in accordance with the rules. That would answer to verse making and essay writing in the dead language. To be sure, if a great comparative anatomist were to look at these fabrications he might shake his head, or laugh. But what then? Would such a catastrophe destroy the parallel? What, think you, would Cicero, or Horace, say to the production of the best sixth

form going? And would not Terence stop his ears and run out if he could be present at an English performance of his own plays? Would Hamlet, in the mouths of a set of French actors, who should insist on pronouncing English after the fashion of their own tongue, be more hideously ridiculous?

STRENGTH AND WEAKNESS OF THE THEORY. — This theory of education, dominant for so long a period, so trenchantly attacked in the present, must consequently present elements of both weakness and strength. Among the chief defects was the fact that the special demands which the various callings or needs of life make upon education received no special consideration. All were to be met by the simple turning of the ability generated by the formal training of the school into the desired channel. Nor were the special aptitudes or inaptitudes of the pupils given any consideration. Since these studies with their appropriate discipline furnished the best possible preparation for every obligation that life made upon education, those pupils that were unable to meet the demands of such a training were *ipso facto* incapable of fulfilling any of these higher offices or functions in life or of meeting the requirements of any of its greater opportunities.

Disciplinary education gave no consideration to social needs, or to needs or capacities of individual students

As a consequence, however, it possessed one great merit. Since the educational subjects elected were chiefly those dealing with abstract ideas, it did furnish valuable training for a limited class of the intellectually superior, and did develop a capacity to deal with those phases of life's activities (law, theology and the like) which were concerned chiefly with abstract ideas. That such a process of instruction offered nothing of value to the great masses of children, was no objection to it in an aristocratic society, and in an age before the development of democratic sentiment.

Excellent social selective system did give effective training for special professional classes

The chief modern argument for the theory has been, that such a discipline develops the power of voluntary attention. But modern psychological thought questions, if it does not positively deny, that there is any such thing as a general power

Offered nothing to the masses of children

The question of general power or ability a disputed one

But the old disciplinary education developed special powers of value to a limited few in society

Great defects of the system become evident with universal education

Certain subjects do have a general value

Also there is an identity of mental procedure that gives some basis for the disciplinary view

or ability. But this power of voluntarily attending to linguistic, legal, theological abstractions, developed through such a training, was just the capacity necessary for the success of this particular intellectual class. Consequently, whether explained through the theory of general ability or of special abilities, this disciplinary training for many generations did afford an effective education for the classes receiving an education. Furthermore, voluntary attention must be more depended upon in all those life activities dealing with abstract ideas than in others, for here the natural interests offer little of that support which they would give in other lines of action. The comparative sufficiency of the theory in these earlier periods is more evident when it is remembered that the opportunities for education were offered to a very few, selected from a limited class. It is with the entrance of all classes of pupils into the schools, with varying capacities and with varying social needs to be met, that the total insufficiency of the disciplinary theory becomes apparent.

However, even with a total disbelief in the theory of general mental capacity, it must be admitted that there is a certain identity in the content of experience which gives to some subjects a far more general value than to others. Thus arithmetic and language study, since they give a training in activities that enter very generally into the experiences of after life, possess a general value as subjects of study, which, if not identical to that argued by the old disciplinarians, is at least similar. Moreover, there is a certain identity of mental procedure in all experiences now more apparent since the mind is conceived as a unit in its action, than when viewed as a bundle of faculties. Consequently, every subject has a disciplinary value. But this merit is not the peculiar possession of a favored few, nor is it of so wide an applicability, nor can it be possessed at all by a particular subject that has no content value, — *i.e.* one not apt to enter into later experiences, — as was held by the old disciplinarians.

Continued prevalence of the disciplinary view in practice

While the disciplinary conception, even in its early form, yet prevails very generally and is apt to continue, we are here chiefly concerned in its historical formulation, especially by the great English philosopher, Locke.

Locke's idea of education as a discipline much broader than the disciplinary idea of the schoolmaster

JOHN LOCKE AS A REPRESENTATIVE OF THE DISCIPLINARY EDUCATION. — John Locke (1632–1704) held the idea that education was a discipline, and his view strongly reënforced the prevalent one. But the "discipline" of the philosopher was a much broader one than the discipline of the schoolmasters. Locke's one great passion in life, the thought emphasized in his philosophical writings as the aim of intellectual endeavor, was the love of truth. The guide to the attainment of truth and to every activity in life, was reason; but the mind was capable of attaining to truth and of formulating it only when educated to this end. This education consisted in a rigid discipline. In his *Essay concerning Human Understanding*, Locke formulated the Baconian philosophy, or more especially the theory of knowledge, that of empiricism, which has remained the dominant philosophy of the English thought-world to the present time. This theory was that all knowledge comes from the perception of the senses and the "perception of the intellect"; that is, from experience.

Based upon his empirical theory of knowledge

But sense-perceptions must be worked up into knowledge through the "perception of the intellect"

The doctrine of the sensational origin of knowledge became the most important part of his teachings, philosophically; but it was the second part of his theory, that concerning the elaboration of knowledge through the perception of the intellect, that became the most important educationally. After the simple stuff of experience is furnished by the senses, according to Locke, our ideas, judgments, etc., are formed through the perception of the intellect. This can be developed, not through training in sense-perception, but through the discipline of mental powers, chiefly reason.

This is developed through training or the disciplinary education

Though it is impossible to enter into details here, it must be borne in mind that Locke's philosophical and psychological views do not always accord with his views on education. The

one fundamental thing that makes Locke a representative of the disciplinary education throughout is his idea of the human mind as a mere blank to begin with, which has its virtues and powers worked into it from the outside through the formation of habits. Development, according to Locke, comes only by the formation of habit through discipline.

Fundamental basis of his view given in his philosophical works not in his *Thoughts concerning Education*

Our main interest, however, is in the educational theory of Locke, not in his philosophy. In his *Essay* and more especially in his *Conduct of the Understanding*, he shows how this type of mind can be developed, that is, through such a training or discipline as will strengthen all its powers. This is not to be done merely by study and reading, but more largely by reflection and meditation. These views must be taken into account in the examination of his *Thoughts concerning Education* (1693), which is the one work by which his educational ideas are usually judged.

Locke the most important English writer on education

Locke is probably the most important and most influential of all English writers on education; at least he takes rank with Ascham and Spencer. Consequently the main thoughts of Locke's treatise deserve presentation aside from the connection they may have with any general tendency. However, it is just these fundamental conceptions, as distinguished from the many valuable suggestions and ideas scattered throughout the treatise, that give Locke his relation to the disciplinarians. The aspects of education according to Locke are three: physical, moral, intellectual. The aims are, correspondingly, vigor of body, virtue and knowledge. The first is fundamental as a basis. This being provided for, the aims of education are, as he states in another place, virtue, wisdom, breeding and learning in the order of their importance.

His analysis of education

Method of physical education was that of a rigid discipline, a hardening process

Physical Education. — "A sound mind in a sound body is a short but full description of a happy state in this world. He that has these two, has little more to wish for; and he that wants either of them, will be but little the better for anything else." These are the opening sentences of the *Thoughts*, the first thirty

paragraphs of which are given to the discussion of physical education — one of the first and yet one of the sanest of such treatises. The principle underlying it all, the scanty and loose clothing, the hard beds, the open air, the simple, even rigid, diet, is that of the hardening process, — rigid discipline.

Moral Education. — One of the most striking of Locke's positions, as well as one of the soundest of them, is the clear distinction he ever holds in mind between education and instruction. This explains the divergence between Locke's views and those of the educators of the disciplinary school prevailing during his own time. With the latter, education came to be identified with instruction, as it in turn became a rigid and formal discipline. With Locke it is education as a whole that is a discipline. Instruction is merely the method of *intellectual* education. The primary object of education as a whole is the formation of character.

Education far wider than instruction

'Tis *Virtue* then, direct *Virtue*, which is the hard and valuable part to be aimed at in Education, and not a forward Pertness, or any little Arts of Shifting. All other Considerations and Accomplishments should give way and be postponed to this. This is the solid and substantial Good which Tutors should not only read, lecture, and talk of, but the Labor and Art of Education should furnish the Mind with, and fasten there, and never cease till the young man had a true Relish of it, and placed his Strength, his Glory, and his Pleasure in it.

Its chief aim is virtue

But it is rather the manner in which this great end is to be accomplished that indicates again how, fundamentally, Locke holds throughout to the disciplinary conception of education.

"As the strength of the Body," he remarks in beginning his discussion of moral education, "lies chiefly in being able to endure Hardships, so also does that of the Mind, and the great Principle and Foundation of all Virtue and Worth is placed in this: That a Man is able to *deny himself* his own desires, cross his own inclinations and purely follow what Reason directs as best, tho' the appetite lean the other way. . . . It seems plain to me that the Principle of all Virtue and Excellency lies in the Power of denying ourselves the Satisfaction of our own Desires, where Reason does not authorize them. This Power is to be got and improved by Cus-

Basis of virtue in self-denial: this developed by practice in self-discipline

tom, made easy and familiar by an early Practice. If, therefore, I might be heard, I would advise that contrary to the ordinary way, children should be used to submit their Desires and go without their Longings, even from their very Cradles. The first thing they should learn to know should be that they were not to have anything because it pleased them, but because it was thought fit for them."

Objectively, this process to be made as pleasurable as possible

So here again education at basis is a discipline. Virtue is to be obtained by the formation of good habits through a long discipline of the desires. This process is to be made as pleasurable as possible, and great severity, especially as regards corporal punishment, is to be avoided; but the secret of all education is to control the natural desires and instincts by thwarting them and forming the habit of their control, and not at all by following them implicitly as with the naturalists of the Rousseau type.

Basis of it all, in formation of habit

Intellectual Education. — The portion of the *Thoughts* dealing with intellectual education is devoted for the most part to a consideration of the subjects of study. Concerning these, Locke agrees in many points with the sense realists and the encyclopedists. Even here, however, the disciplinary view is fundamental, as will be seen in this conclusion: —

Content of intellectual education subordinate to moral ends

Learning must be had, but in the second Place, as subservient only to greater Qualities. Seek out somebody that may know how discreetly to frame his Manners: Place him in Hands where you may, as much as possible, secure his Innocence, cherish and nurse up the good, and gently correct and weed out any bad Inclinations, and settle in him good Habits. This is the main Point, and this being provided for, *Learning* may be had into the Bargain, and that, as I think, at a very easy rate, by Methods that may be thought on.

In Locke's philosophical writings, more especially his *Conduct of the Understanding*, his conception of the intellectual aspect of education is clearly revealed. Long ago this work was termed a "treatise on the moral *discipline* of the intellect." Here, in stating his fundamental principle, is given the justification for his encyclopedism — together with its great difference from that of Comenius.

The business of education is not to make the young perfect in any one of the sciences, but so to open and dispose their minds as may best make them capable of any, when they shall apply themselves to it. . . . It is therefore to give them this freedom that I think they should be made to look into all sorts of knowledge and exercise their understanding in so wide a variety or stock of knowledge. But I do not propose it as a variety and stock of knowledge but a variety and freedom of thinking; as an increase of the powers and activities of the mind, not as an enlargement of its possessions.

Purpose intellect educatio to train in certai habits

The entire treatise is devoted to a reiteration of the idea that intellectual education is a formation of habit of thought, through exercise and discipline.

The faculties of our souls are improved and made useful to us just after the same manner as our bodies are. Would you have a man write or paint, dance or fence well, or perform any other manual operation dexterously and with ease, let him have ever so much vigor and activity, suppleness and address naturally, yet nobody expects this from him unless he has been used to it, and has employed time and pains in fashioning and forming his hand or outward parts to these motions. Just so it is in the mind; would you have a man reason well, you must use him to it betimes, exercise his mind in observing the connection of ideas and following them in train.

These h gained through ercise a disciplin

Respecting the choice of subject-matter appropriate to this end, he continues in the manner characteristic of this entire school of educational thought:—

Nothing does this better than mathematics, which therefore I think should be taught all those who have the time and opportunity, *not so much to make them mathematicians, as to make them reasonable creatures;* for though we call ourselves so, because we are born to it if we please, yet we may truly say nature gives us but the seeds of it. We are born to be, if we please, rational creatures, but it is use and exercise that makes us so, and we are indeed so no further than industry and application has carried us. . . . I have mentioned mathematics as a way to settle in the mind a habit of reasoning closely and in train; not that I think it necessary that all men should be deep mathematicians, but that having got the way of reasoning, which that study necessarily brings the mind to, they might be able to transfer it to other parts of knowledge as they shall have occasion.

Importa of mathe matics a intellect disciplin

Due to failure to recognize Locke's fundamental principle

Other Classifications of Locke. — Locke is frequently classified with Montaigne, or with Bacon and Comenius as a sense-realist, or with Rousseau as a naturalist. This is because his fundamental idea has not always been clearly realized, and because fragmentary views from his *Thoughts* have been taken as all of equal importance. In many respects some of the views of Locke are identical with some of the views of these other educational writers. This can be seen even in the brief extracts given. But when fundamental views are compared, the divergence is evident. Both Locke and Montaigne make practical virtue the end of education. But they differ greatly respecting what was meant by virtue, and still more widely on the fundamental point, how virtue is to be obtained through education. And this opposition is found in Locke's disciplinary views. Locke's fundamental disagreement with Bacon and Comenius is seen in his view that subjects are to be used, not to give content, but to give training. And again, though a physician, Locke says scarcely a word in favor of the study of the natural sciences. Rousseau acknowledges his indebtedness to Locke. But the fundamental educational idea of Rousseau was that natural instincts and tendencies should not be thwarted and that habits should not be formed. Locke's most characteristic views were, that natural tendencies should be thwarted and disciplined, and that education in every aspect was nothing but the formation of habit (p. 263).

Wherein Locke differs from Montaigne

from Bacon and Comenius

from Rousseau

In the English public schools

THE DISCIPLINARY EDUCATION IN THE SCHOOLS. In England. — Locke's trenchant criticism of the type of education prevailing in the English public schools should not blind one to the fact that there was fundamental agreement in their views of education. What Locke objected to was that the schools confined their discipline to exclusively intellectual training; and that in this training they emphasized activities of the mind that were not the most important; and that the means they used, especially the writing of Latin themes and verse, were too restricted and were calculated to develop certain abilities that were of little value.

The work of these public schools is typical of all educational work in England during all of the eighteenth and the greater part of the seventeenth and of the nineteenth centuries. The very extensive use of corporal punishment for the slightest offenses or deficiencies; the important influence exerted by the fagging system, in which the younger boys served as the personal attendants and servants of the older boys, performing all menial services, such as keeping their rooms, preparing their breakfasts, building fires, running errands, etc.; the custom of governing the school and inflicting punishment in all save the most serious offenses by these same "sixth form" boys; all these indicate how completely, in respect to "virtue and breeding," education in the dominant English view had become and continued to be a discipline.

Seen in corporal punishment and fagging system, as well as in system of studies



SEAL OF THE FREE GRAMMAR SCHOOL OF LOWTH, FOUNDED BY KING EDWARD VI IN 1552.
The motto reads, "Who spares the rod, hates the child."

On the intellectual side the situation was even more striking. Nowhere else can one find dominant for so long a period an elementary and secondary education with such a restricted intellectual content. Beyond the mastery of the rudiments of grammar, which were ordinarily required for entrance, the entire work of from six to nine years was devoted to Latin and Greek prose composition and to the writing of verse, especially in the Latin. This was presumed to develop an appreciation for the classical literature, which constituted the sole content of their curriculum. This régime was hardly questioned until the opening of the nineteenth century, and for more than half a

Meager contents of the curriculum

century additional the merits and demerits of Latin versification were discussed as though the whole question of educational values and of the subjects of study were compassed within these narrow limits.

Persistence of this type of education until late in the nineteenth century

In the great survey of all of these schools in England made by Carlisle, well into the nineteenth century, the curriculum of Winchester is described as follows: "The Latin and Greek Grammars of the College only are used. The routine of Education comprises the Classics throughout, and Composition in Verse and Prose. The other parts of education, such as French, Arithmetic, Mathematics, etc., are not taught in this School." The curriculum is everywhere practically the same, and is given only a sentence or so in the many pages devoted to each school. The reforms since the middle of the century have introduced the modern side, — modern languages and the sciences, — but the conception of education is yet much the same.

Dominance of the classics and of mathematics in the English universities

In the English universities the spirit until very recent times was similar. The classics and mathematics constituted the bulk of the curriculum. From these, until 1850 at Oxford and until 1851 at Cambridge, the subjects for examination must be chosen. The fact that no one of the great scientists of the nineteenth century either was trained or did his life's work in connection with the universities is one of the most striking evidences of the narrow conception of education prevailing therein.

The German gymnasium represents the disciplinary type of education

In Germany. — No more significant evidence of the hold of this conception upon the German educators could be found than the term applied to their representative school — the *gymnasium*, the place for the discipline, training or gymnastic of the mind, as with the old Greek the gymnasium had become, when this higher training of the mind had replaced that previously given to the body.

As noted in the previous chapter, the realistic conception of education found no response in the schools until near the middle of the eighteenth century. Even then it was quite slight for

the remainder of the century. The narrow humanistic education upon the disciplinary basis prevailed almost universally. There existed as yet little national spirit that demanded an education as a basis for the unification in spirit of the German people. Such unity in ideas and in spirit as they possessed was largely due to the Church, which controlled education as a means subordinate to itself. The Church here as elsewhere held the disciplinary conception of education. The awakening at the latter half of the eighteenth century, known as the *New Humanism*, gave to the German people an entirely new conception of the purpose of education. This change relegated the disciplinary thought to a secondary place. The *New Humanism* would use the classical languages for an entirely different purpose, — that of developing individualism and national spirit and vitality, through the spirit and substance of the ancient, especially Greek life. Latin became secondary to Greek, and the formal study for discipline and for scholastic form was replaced by the ideal of culture as shown in a life of activity. But political reaction, followed by revolution, produced a decided educational reaction, and the disciplinary idea as the bulwark of authority again became dominant. Even as late as 1892, the German emperor, speaking of the character of the education dominant in the German higher schools, could say: —

Other schools represent more modern interests in education

The New Humanism of the nineteenth century modifies the extreme diciplinary view

Reforms attempted by the present Emperor

> If any one enters into a discussion with these gentlemen [the supporters of the rigid classical gymnasien] on this point, and attempts to show them that a young man ought to be prepared, to some extent at least, for life and its manifold problems, they will tell him that such is not the function of the school, its principal aim being the discipline or gymnastic of the mind, and that if this gymnastic were properly conducted the young man would be capable of doing all that is necessary in life. I am of the opinion that we can no longer be guided by this doctrine.

In America. — In our own country, on account of social reasons, the breaking away from the dominance of the old ideas came much earlier. However, the disciplinary idea is held quite widely even yet and controls much of school work. When the

The disciplinary education in early American colleges and secondary schools

old Latin grammar schools gave way to the academies, in the later eighteenth century, the first step was made. The encroachment of the sciences and the modern culture subjects in the colleges went on gradually, until by the middle of the nineteenth century they were well established. With the adoption of the elective system, the old disciplinarian basis was largely abandoned, as it has been since, even in the collegiate study of the classical languages.



COMBINATION OF DISCIPLINARY SCHOOL AND REALISTIC METHOD

From *The Little Grammarian*, Boston, 1819.

Strange to say, it was in the field of elementary education that the conception dominated the longer. The idea did not control so completely that subjects valuable for their content were altogether excluded; yet, until recently, the formal studies, such as grammar, arithmetic and spelling, constituted the core and, in quantity, the bulk of the elementary curriculum. The training, or discipline, given by these subjects, was held to be the element of chief importance in the early years of schooling. Little by little, since the opening of the nineteenth century, the content studies, such as literature, history, geography and the natural sciences, have made their way from the academies and secondary schools down into the elementary grades. The reasons underlying these changes are to be discussed in subsequent chapters.

Persistence in the elementary school

SUMMARY

Social changes during the sixteenth and seventeenth centuries destroyed the practical bearing of the narrow humanistic education. Educational, religious, psychological and professional views united in demanding its perpetuation. This resulted in the formulation of the disciplinary conception of education. According to this view (1) the value of education lies, not in the content of the subjects acquired, but in the process of acquiring

them; (2) the correct process or method of education will result in the development of a special mental power which will be applicable to all subjects; (3) for the most part this view also held that the mind was composed of faculties of which especially two, memory and reason, were to be trained by such disciplinary processes. This view continued to survive even after the development of modern psychological and scientific tendencies in education and to receive support from them. To the present day, this conception of education has many supporters. While open to many criticisms, there are some elements of truth in the theory that are altogether independent of these arguments just given. These are, (1) the fact that some subjects, such as language, do have a general functional value; (2) that there is a certain identity in mental processes; (3) and that for certain professions or classes this narrow disciplinary education did furnish a practical functional training. The great theoretical representative of this view is John Locke. He elaborated the bearing of the theory in its relation to physical and moral as well as intellectual training. From the seventeenth century to the present, this conception of education has controlled the work of the secondary schools and the old universities of England, the gymnasien of Germany, and in the earlier period the colleges and secondary schools of America. Its influence in every phase of educational work is apparent at the present time.

Chronological Table of Educational Development during the Seventeenth and Eighteenth Centuries

Political Events and Personages	Literary Men, Religious Leaders, etc.	Scientists, Philosophers, etc.	Educational Writings and Educators	Educational Events
1600.	Bunyan 1628 1688	Galileo 1564-1642	Ratich . 1571-1635	1619. First Natural Science Association (Rostock).
1618 1648. Thirty Years' War.	George Fox 1624-1691	Hugo Grotius 1583-1645	Comenius 1592-1671	1619. First comp. ed. (Weimar)
1620. Plymouth settled.	Spener (Pietist) 1637-1702	Bacon 1561-1626	Comenius's *Great Didactic* . 1630	1633. First el. school in America (N. Y.).
1648. Peace of Westphalia.	1673. Test Act, Eng.	Harvey 1578 1657	Comenius's *Orbis Pictus* . . 1657	1635. Boston Latin Grammar School.
1649. Charles I beheaded.	1685. Edict of Nantes revoked.	Hobbes 1588-1679	Milton's *Tractate* . 1644	1636. Harvard founded.
1660. Restoration.	1695. Toleration Act, Eng.	Des Cartes 1596-1650	Fenelon's *Ed. of Girls* . . 1687	1642. School reforms of Gotha.
Louis XIV 1643-1715	Corneille 1606-1684	Boyle 1627-1691	Lasalle's *Institutes*, 1684	1643. Port Royal "Little Schools."
1679. Habeas Corpus Act.	La Fontaine 1621-1685		Locke's *Thoughts* . 1693	1647. Comp. School law in Mass.
1688. English Revolution.	Racine 1639-1699			1693. William and Mary founded.
				1694. First modern university. (Halle founded.)
				1697. Teachers' seminary at Halle.
				1699. Soc. for Prom. of Chris. Knowl. founded.
1700.	Fenelon 1651-1715	Newton 1642-1727	Francke, 1663-1727	1700. Yale College founded.
1713. Peace of Utrecht.	Montesquieu 1689-1755	Leibnitz 1646-1716	Rollin . 1661-1741	1704. First American newspaper.
Queen Anne 1702-1714	Voltaire 1694-1778	Halley 1656-1742	Julius Hecker 1707-1768	1709. First daily newspaper.
Frederick William of Prussia 1713-1740	Pope 1688-1744	Buffon 1707-1788	Rousseau 1712-1778	1724. Compulsory education of both sexes in Saxony.
Frederick the Great 1740-1786	Richardson 1689-1761	Linnæus 1707-1778	Rousseau's *Emile* . . 1762	1746. Princeton founded.
1756-1763. Seven Years' War.	De Foe 1661-1731	Franklin 1706-1790	Johann Basedow 1723-1790	1747. First *real schule* (in Berlin).
1757. British East India Empire founded.	Addison 1672-1719	Hume 1711-1776	Salzmann 1744-1811	1748. First *Lehrerseminar* founded.
1772. Partition of Poland.	Fielding 1707-1757	Watt 1736-1819	Campe . 1746-1818	1751. Academy of Philadelphia founded.
1759-1773 to 1814. Jesuit Order suppressed.	Gray 1716-1771	Lavoisier 1743-1794	Pestalozzi 1746-1827	1754. Kings' (now Columbia) College founded.
1775-1783. American Revolution.	Jonathan Edwards 1703-1758	Priestley 1733-1804	Pestalozzi's *Leonard and Gertrude* . 1781	1764. Expulsion of Jesuits from France.
1789. First President inaugurated.	John Wesley 1703-1791	Adam Smith 1723-1790	Knox, *Liberal Education* 1781	1763. Special training required of all German teachers.
1789. States General.	Diderot 1713-1784	Lamarck 1744 1829	Edgeworth, *Practical Education* 1798	1763. Founding of present system of Prussian schools.
Louis XVI 1774-1792	Helvétius 1715-1771	Werner 1750-1817	Jean Paul Richter 1763-1825	1774-1793. Basedow's *Philanthropinum*.
1799. Bonaparte overthrows Directory.	Condillac 1715-1780	Kant 1724-1804	Frederick Augustus Wolf 1759-1824	1783. Sunday-schools founded.
	Burns 1759-1796	Herschel 1738-1832	Bell's *Experiment in Education*, 1798	1784. University of State of New York.
1800.	Schiller 1759-1805	Schleiermacher 1768-1834	Lancaster's *Monitorial System* . 1798	1785. Land endowments for public schools in United States.
		Fichte 1762-1814	Andrew Bell 1753-1832	1785. Webster's *Speller*.
		Laplace 1749-1827	Joseph Lancaster 1778-1838	1794. All Prussian teachers declared State officials.
		Humboldt 1767-1835	Noah Webster 1758-1843	1793. Decree of Rev. Convention on education.
				1794. National Normal School in France.
				1795. Primary education established in France.
				1795. Lindley Murray's English grammar.
				1798. Monitorial System established.

CHAPTER X

THE NATURALISTIC TENDENCY IN EDUCATION: ROUSSEAU

"Naturalism" was a negation of the Renaissance

RELATION TO PREVIOUS MOVEMENTS AND TO THE TIMES. — The naturalistic movement in education was a revolution in thought and practice no less important and influential than that of the Renaissance. It was the overthrow of that conception, developed by the Renaissance, that education consists of a mastery of books and of forms. But the naturalistic movement in thought was far more general than the educational aspect of it. And the educational aspect can only be understood through a comprehension of broader intellectual and social conditions.

Was a revolt against the formalism of the eighteenth century

During the latter part of the seventeenth and most of the eighteenth century a lifeless formalism prevailed in religion and morals. Against this there had sprung up in England, Puritanism; in Germany, Pietism; in France, Jansenism. But even these movements, because they asserted ideals too high for realization, had themselves degenerated into formalism. A tone of cant was introduced into literature and social intercourse; and underneath this, frivolity and licentiousness soon developed. In France the established Church retained all its former power and exerted a most oppressive influence over thought and action. The reigning monarchs made amends for their licentiousness by persecution and inquisitorial torturing of those who dared question the authority of the Church, and the aristocracy purchased a similar indulgence by a most intense loyalty to formal orthodoxy. "Ceremonial display and outward magnificence merely veiled moral meanness and inward depravity; punctilious attention to the rites of the Church, and a blind or feigned ortho-

and especially against the artificiality of French life

doxy, only favored the spread of hypocrisy and of a secret and cynical skepticism."[1] During the seventeenth century France had been the first nation of the world, and during the seventeenth and early eighteenth centuries had passed through a period comparable to the Periclean or Augustan ages of ancient civilizations. But the brilliancy of Paris had been purchased at the expense of the provinces. The power of the king had been bought with the slavery of his people; his success in war with the impoverishment of the country; the extravagance of aristocratic society with the sordid lives of the common people. The supremacy of the orthodox Church had been brought about by the suppression of all right of individual judgment. The support of the nobility for the Church and state had been secured by unjust privileges and corrupt lives.

Position of France during the eighteenth century

There prevailed an absolutism in politics, in religion, in thought and in action, that could persist only so long as no one arose to lead a revolt. During the eighteenth century leaders were found. The first revolt was that of the intellect against repression, and is usually called the *Illumination* or the *Enlightenment.* The second was the revolt of the masses for the rights of the common man, and constitutes the *Naturalistic Movement.* On the thought side these two movements had much in common and are often included together. Yet in certain fundamentals, such as formalism and aristocracy, there was a radical divergence between them. They will be briefly noticed as distinct from each other.

Revolt against the prevalent absolutism

THE ILLUMINATION OR ENLIGHTENMENT, though a most notable step in the development of human freedom was in its outcome but a new type of formalism. This eighteenth-century formalism was materialistic as the former had been pietistic; skeptical and rationalistic as the former had been religious and ceremonial; aristocratic as that had been democratic. According to the prevailing standards of the eighteenth century, morality consisted in the observance of

The new formalism of the Enlightenment

[1] Flint, *History of the Philosophy of History in France* p. 236.

form and the preservation of proper outward appearance. Consequently, as is evidenced by the literature of the times, it permitted the grossest immorality. Rejecting the practices of Puritanism and Pietism as hypocrisy and revealed religion as superstition, it became openly atheistic or skeptical. Hume and Gibbon in England and Voltaire and the encyclopedists in France interpreted life from that position. In its origin the Enlightenment was a reaction against the existing formalism in thought and in belief, and against the absolutism of the Church. It rebelled against hierarchy and despotism in Church, state and society; against superstition and ignorance in thought; against hypocrisy in morals. As often, the price of freedom was anarchism in social order, atheism and skepticism in thought, and license in morals. Establishing as its fundamental principle a complete reliance upon human understanding and reason, the early movement opposed all ancient abuses, and along with these all forms of tyranny, whether in thought, in government or in morals. Finally, it attacked the very foundations of all the institutions, especially of state and Church, through which such authority was exercised. Thus it tended to eliminate for the time being much that was woven into the very texture of a stable society and is ever essential to it. Through human reason alone was any true estimate of life now to be formulated and human happiness attained.

The aim of the Enlightenment was to liberate the mind from the dominance of supernatural terrorism; to establish the moral personality of the individual, independent of ecclesiastical and social forms; to demonstrate the intellectual freedom and sufficiency of man; to destroy the terrorisms over the feelings, the absolutism over thought, the tyranny over action, exercised especially by the Church, and, as supplementing the Church, the monarchy. The Enlightenment asserted a supreme faith in the reason of the individual, in justice in the state, in toleration in religious beliefs, in liberty in political

action, and in the rights of man. The entire period was controlled by a profound belief in the prerogative of the individual, his right to individual judgment, and to the determination of every question uninfluenced by the beliefs and superstitions of the Church and the traditions of society. Freedom of thought, liberty of conscience, sufficiency of reason for the conduct of life, were thus the watchwords and the keys of interpretation of this eighteenth-century movement.

Essential ideas of the reform of the eighteenth century

The Enlightenment was aristocratic,

However, there was another side to the Enlightenment: Voltaire and his co-workers of the early half of the century were no less aristocrats than those aristocrats of privilege whom they opposed. They held that the lower classes were not amenable to reason, that they were incapable of being educated, that they were but little above the savages, and consequently that for them religion had a legitimate function.

Indifferent to the needs and rights of the masses

The thought-movement of the early part of the century was aristocratic, because it was rationalistic. It aimed to secure the culture of the few, the overthrow of narrow tradition and dogmatism in the lives of those who controlled society, and the control of reason among the educated class. It would substitute a new aristocracy of intelligence and wealth for the old aristocracy of family, of position and of the Church. It possessed a cleverness, a wit, a brilliancy, that contrasted favorably with the narrowness and dullness of the old. But it was for the chosen few, and had no regard for the masses, sunk in degradation and overwhelmed by wrongs and tyranny. While the *illuminati* opposed tyranny and oppression in human thought, they yet aspired to profit by participation in the social and political privileges of the few. There was a selfishness and inconsistency about it all, that but made more glaring the injustice to the many who must support the privileges of the few.

Was artificial and formal in its results

Hence this early intellectual movement inevitably degenerated into selfish indifference, into skepticism and into the stilted formalism of a polished but artificial society. All

this was rational enough, to be sure, but through its artificiality it had lost all approach to a natural mode of living, and through its cosmopolitanism, all national and local feeling. The propaganda of the Enlightenment had been confined to no one country. Literature in the vernacular first came to be cosmopolitan through Locke, Pope and the novelists of England, through Voltaire and the encyclopedists of France and the philosophers of Germany. The learned class, affecting superiority by virtue of their stilted wisdom, now shunned simplicity as a mark of vulgarity, and naturalness as a mark of irrationality. The formalism of morality into which the Pietistic and Puritanic morality degenerated is well illustrated in the English novels of the eighteenth century, such as those of Richardson. The formalism of the Enlightenment is equally well illustrated in the conception of morality, of politeness and of sympathy revealed in Lord Chesterfield's *Letters*. The later eighteenth century, weary of the formalism of both movements, became, under the leadership of Rousseau, directed to a new purpose.

especially standards morality

THE NATURALISTIC PHASE OF THE EIGHTEENTH-CENTURY MOVEMENT. — Until the middle of the century, philosophy and "reason" concentrated most of their attacks upon the Church. After the middle of the century, criticism was directed toward the evils of the social and political organization of life. The earlier aim was to destroy the existing abuses; the latter rather toward building up an ideal society.

With the Naturalist Movement social reform was the great a

But there were other more fundamental distinctions between the two movements. The "rule of reason" had come to be for many no less a tyranny than the rule of authority. As opposed to the earlier rationalistic belief, the view was now urged that the senses were not always to be depended upon, and that reason was not always infallible. On the other hand, the emotions, as true expressions of our nature and as opposed to the selfish calculations of reason, were rather to be followed as the guide to right conduct. The movement of the latter half of the century looked

Rationalism a ty anny for t masses

toward the improvement of the masses of the people, as the former had resulted in the formation of an intellectual aristocracy.

Voltaire was the leader in the first movement, because of his brilliant intellectual power and his far-reaching rationalism; Rousseau was the leader in the second, because of his deep emotionalism and his profound sympathy for the people. "If it is an explanation of the popularity of Voltaire that he said what most were thinking, then we may say that Rousseau was popular because he gave the most perfect expression to what others were feeling." [1] The early movement had led to freedom of the intellect, but yet had tolerated for selfish reasons the formalism and arbitrary authority of social institutions.

Led partly by personal feeling and partly by sympathy for the common lot, Rousseau revolted most violently against the glaring social inequalities of his age. He propounded in place of the old law of reason the new gospel of faith in nature, in the common man, and in man's ability to work out his own good in life. Contrasted with the majesty of the monarchy, the gayety and luxuriousness of the lives of the nobility, the brilliancy of society, La Bruyère drew a picture of "certain wild animals, male and female, scattered over the fields, black, livid, all burnt by the sun, bound to the earth that they dig and work with unconquerable pertinacity; they have a sort of articulate voice, and when they rise on their feet, they show a human face, and, in fact, are men." Quoting this, Morley adds: "There is no reason to think that Voltaire ever saw this gaunt and tremendous spectacle. Rousseau was its first voice. Since him the reorganization of the relations of men has never faded from the sight either of statesmen or philosophers with visions keen enough to admit to their eyes even what they dreaded and execrated in their hearts. Voltaire's task was different and preparatory. It was to make popular the genius and authority of reason." [2]

[1] Willert in *Acton's Cambridge History*, Vol. VIII, p. 28.
[2] *Voltaire*, pp. 27–28.

Contrast between religious orthodoxy and the teachings of naturalism

The task of the second half-century, under the leadership of Rousseau, was to develop a new faith in man, to work out a new ideal in life, to infuse a new spirit into society, and to reëstablish a basis for religion in man's nature. When we take the old period of religious orthodoxy and the new naturalism, each at its best, we find a profound difference between them. "Faith in a divine power, devout obedience to its supposed will, hope of ecstatic, unspeakable reward, these were the springs of the old movement. Undivided love of our fellows, steadfast faith in human nature, steadfast search after justice, firm aspiration toward improvement, and generous contentment in the hope that others may reap whatever reward may be, these are the springs of the new." [1]

Contrast between the Enlightenment and naturalism in the attitude toward religion

A further difference between the rationalistic and the naturalistic movements, as personified by Voltaire and Rousseau, is seen in the attitude of these two men toward religion. Voltaire held that all religion was an illusion to the believer and a deception by the priesthood. The naturalists rejected both the skepticism of the *illuminati* and the old ecclesiasticism which they considered to be the superstition of orthodoxy. They formulated a "natural religion," which included the morality of Christianity but excluded more or less completely the supernatural element. The criticism of this natural religion does not concern us here, any more than does a criticism of the position of the skeptics. But it is important to note that the naturalists believed in religion as an essential part of human society because it was an essential part of human experience. The attitude of the Revolutionary Convention is a just commentary on the difference between the two movements in this respect. The Convention affirmed the belief of the French nation in a Supreme Being and in the immortality of the soul, and accepted the confession of the Savoyard Vicar (from the *Émile*, Bk. IV) as the established faith. Skepticism and atheism were pronounced to be aristocratic and not to be endured.

"Natural religion"

[1] Morley, *Rousseau*, Vol. I. Introd.

The civilization of the Enlightenment held by Rousseau to be a curse

The general conception of civilization held by Voltaire and his associates eliminated religion; permitted the populace no rights; had no sympathy with the masses; erected a polished, intellectual society, preserving its identity by a cold formalism and its morality by a punctilious observance of stiff rules; accepted reason as a guide in thought, materialism as a standard in morality, and self-interest as the principle of action. In this conception of society is to be found the animus of Rousseau's contention that civilization is a curse.

Analysis of Rousseau's character

JEAN JACQUES ROUSSEAU. — In Rousseau's character there was an extraordinary combination, of strength and weakness, of truth and falsity, of that which is attractive with that which is repulsive. Consequently to estimate aright the ideas and purposes of the man, to understand the movement in thought and in institutional organization which owes much of its intensity to Rousseau's teachings, one must lay aside all prejudices in considering the man himself and the form in which he expressed his ideas. This is especially necessary if one is to gain any conception of the bearing of his teachings on the development of educational thought. Rousseau possessed an unusual power of embodying great ideas in words, but a very slight ability to realize them in action. Clear insight, great sympathy, little accurate knowledge, and less disciplined power of the mind constituted his mental equipment. He gave an impetus to ideas less effectively expressed by many others, that has made him one of the most powerful factors in all history. Napoleon said that without him the French Revolution would not have occurred. He was the first to preach effectively the gospel of the common man and gave to him an education as a right of birth. He caused a more complete revolution in educational thought and practice than any man or group of men that we have had to consider.

His traits of mind

His influence

Rousseau was born (1712) at Geneva, which at that time was renowned for its intellectual and moral vigor. In this city, the home of Calvinism, there prevailed an earnestness of moral

life, purity of domestic relations, simplicity of social order, and freedom in government, that were in sharp contrast with the luxury, artificiality and immorality of life at Paris, where Rousseau later made his residence. His training in early years was one of indulgence. When very young, he was taught to read, and devoted his early years to the unrestricted devouring of romances. This experience fixed in him a native tendency to sentimentality and even to sensuality. A few years of more formal education, very indifferently attended to, failed to make any radical change in his character thus early formed. At twelve we find him apprenticed to a trade, where, according to his own account, he learned more of deceit, idleness and dishonesty than he did of craftsmanship. Four years later, still consulting only the whims of sentiment, he became a common vagabond. This life, continued for several years, had the merit of strengthening both his love for, and his knowledge of, nature. The emotions and senses yet remained the chief channels of influence. A full meal, a bottle of wine and the hospitality of a priest, whom he later immortalized as the Savoyard Vicar, led to a "conversion" in religion. This chance incident shaped the life of Rousseau for years.

Influence of his birthplace on Rousseau's ideas

His early training

His education

His life

Our only interest in following even thus far the details of the life of Rousseau is to indicate that his ideals of education grew out of his own life. In his life and in his theories, the emotions rather than the reason dominate; natural instincts and desires are supreme. Out of the experience of his life, he later teaches that moral and religious ideas cannot develop in early childhood, that more is to be derived from association with nature than from communion with books or from the intelligence of others, that proper development can come only by removing all restrictions and allowing natural tendencies to have full sway.

His doctrines grew out of his experience

When about forty his aimless, meaningless existence became possessed of a great idea which gave point to his sentimental vaporings and to his emotional prejudices and beliefs. This idea through him was to revolutionize the social structure of his

Social reform furnishes a purpose to his life

adopted country as well as to modify profoundly that of many others, and when applied to education was to create a new epoch therein as well. In brief, the idea was simple and now commonplace enough. It was that human happiness and human welfare are the natural rights of every individual, not the special possession of a favored class; and that legitimate social organization and education exist but to bring about the realization of this desideratum. To this he added as a main argument, — the fuse which was to explode the bomb, — that science, art, government, education as then constituted prevented this realization and hence were objects for destruction.

The question which first suggested the doctrine. His first "Essay"

DOCTRINE OF THE "NATURAL STATE." — In 1749, coming by chance across the theme for a prize essay propounded by the Dijon Academy, Rousseau was seized with what he terms an inspiration. The theme was formulated in the question: "Has the restoration of the sciences contributed to purify or corrupt manners?" Rousseau's answer was the negative one elaborated in the doctrine of the "natural state." This idea was much discussed during this period and by some even given the same form as that now propounded by Rousseau. But, unlike others, Rousseau furnished in defense of this thesis an emotional fervor and a literary style that carried conviction. To him belongs the honor of securing its popular acceptance. Rousseau did but little more than idealize his remembrance of the simple Genevan life and society, together with that of his own aimless, emotional life. As we recognize the primitive man to be, so certainly by his own showing was Rousseau in his worst moments, "lying, faithless, slanderous, thievish, indecent, cruel, cowardly, selfish." But this life had its positive side also; it was entirely spontaneous; it was simple, happy, contented, earnest, honest — in the sense of true to life. Compared with the life which Rousseau contrasted it with, — the formal, superficial, selfish, and to him inhuman life of Parisian society, — the life according to nature had much to commend it. Much

Merits and demerits of this ideal primitive state

of the unattractiveness of the life of nature was due to the lack of that sophistication so characteristic of the social life of the times and was more than counterbalanced by its genuineness. Its strength lay in its recognition of the worth of the individual on his own merits, in the bond of sympathy which it recognized as the universal solvent, in its passion for freedom and for independence from the trammels of usage, tradition and tyranny.

Its fo tion d chara of eig eenth tury a

Rousseau had now spent several years in contact, though not in sympathy, with the society of culture, wealth and position. On the other hand, he had mingled with that circle of powerful intellects, centered around Voltaire, which controlled the new thought and influenced most of the political and social hierarchies of Europe. With neither of these societies had he any sympathy. The one principle which he honestly lived up to throughout his life was the democratic one, — his feeling for the common man, his belief in the worth of the individual. It was this hollow and insincere, though brilliant, wealthy and "cultured" society that was before him when he produced his essays and those works of the following thirteen years, ending with the *Émile*, which were to render him famous and to revolutionize society.

Rous exper with able learn societ

Rousseau's second essay *On the Origin of Inequality among Men*, is devoted largely to an imaginary description of the state of society among primitive men. The idea of this discourse leads to that of Rousseau's chief political treatise, the *Social Contract*. In this the basal doctrines of the French Revolution as well as of our own Declaration of Independence are set forth. Government is the result of a "contract" among the people, by which some are given delegated power to rule, while the remainder of the people give to the governing class some service in return for services performed. Government, thus formed by agreement, can be dissolved when the parties no longer agree. It is to be noted that the conception of the "natural state" is modified in the *Social Contract*.

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Relation to the French and American Revolutions

It is no longer the life of the savage that is ideal, but the life in society organized under the rule of the people. In this state the simple tastes and wants of the masses dominate, and an aristocracy with its ill-gained wealth, leisure time and selfish indulgence is wanting. Such a society can devote itself to the development of an ideal life, wherein the "natural man" is not hampered, freedom is not lost, and the arts and sciences of polite society are undeveloped.

Just as the great doctrines of liberation of the common man find their origin in the teachings of Rousseau, so also do the great educational doctrines of the liberation of the child. As the *Social Contract* contains the germs of the American Constitution, so the *Émile* contains the germinal ideas of the kindergarten, of modern elementary school work and of the entire modern conception of education.

Plan of the *Émile*

THE "ÉMILE" AND EDUCATION ACCORDING TO NATURE. — In this long tale, part novel, part didactic exposition, Rousseau describes the education of the youth appropriate to his ideal society. The child is taken from his parents and the schools, isolated from society, and put into the hands of an ideal tutor, who brings him up in contact with nature's beauties and nature's wonders. In this treatise, "education according to nature" receives its fullest exposition.

Use of the term *nature*

Threefold Meaning of Nature in the "Émile." — In the opening sentence of the work the fundamental principle is stated: "Everything is good as it comes from the hand of the author of nature; but everything degenerates in the hands of man." While Rousseau is not consistent in his use of the term *nature*, and employs it, as is frequently done by others, in a very vague way, yet one of three definite meanings can usually be assigned to it.

Doctrine of "nature" in its social significance

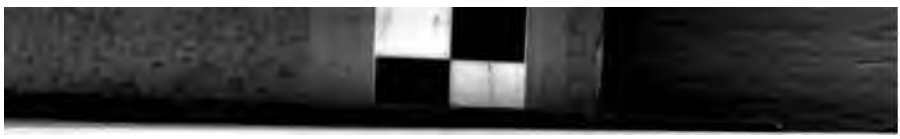
The first and fundamental meaning of "nature" in the *Émile*, as in Rousseau's other writings, is the social one. In the *Social Contract* he shows how a state of high culture can be based upon a truer political principle, and thus a nobler type of social life

than that of the eighteenth century may be evolved. In the *Émile* he describes an education based, not on the forms of society, on the meaningless traditions of the school, and on an entire ignorance of childhood, but on a knowledge of the true nature of man. As in the *Social Contract* he taught that the only rights of man were those found in the laws of his own nature; so, according to the *Émile*, education is to be guided by these same laws. The "natural man" is not the savage man, but man governed and directed by the laws of his own nature. Such laws are discoverable, as are the laws of any other portion of nature, through investigation. This being the primary meaning of education according to nature, an opposition to society follows as a corollary. "We must choose between making a man and a citizen, for we cannot make both at once." But it must be understood that in making this statement Rousseau had primarily in mind the civilization of the eighteenth century.

"Nature in its psychologica significar

A second meaning given to "nature" is that the instinctive judgment, primitive emotions, natural instincts, "first impressions," are more trustworthy as a basis for action than are reflection, or the experience that comes from association with others. "Before this alteration (by habits of thought and judgment acquired from others), this disposition is what I call our nature." Hence Rousseau is constantly attacking the formation of "habits" in education. "The only habit which the child should be allowed to form is to contract no habit whatever," he says. Habit, in the sense of primary disposition unaltered by enlightenment or by suggestion from others, is to be followed. Habit, in its usual significance, as that fixed method of action which is acquired by direct imitation, or by suggestion from others, is to be shunned.

The third sense in which "nature" is used, is to indicate inanimate and subhuman nature. The mal-education which comes from man is to be counteracted by contact, fearless and intimate, with animals, with plants, and with physical phenomena



"Nature" in its phenomenal or physical significance

and forces of all kinds. Rousseau was a "lover of nature," and through his teachings began a movement of finer and fuller appreciation of nature, which found its expression in a wide school of literature both on the continent and in England. Rousseau's conception, however, based upon a wholly misanthropic view of the life of man in society, was not quite so genial. It led to complete isolation from society and to the preference for the life of the recluse. Both morally and physically he held that "Cities are the graves of the human species."

Prevailing "positive" education aimed to repress natural tendencies

Negative Education. — The prevailing conception of human nature, and especially of child nature, reinforced by both educational and religious teachings, was diametrically opposed to that of Rousseau. Human nature was considered essentially bad. The purpose of religious training as well as of education in general was to eradicate the original nature and to replace it by one shaped under man's direction. Rousseau opposed this idea with the following principle: "The first education, then, should be purely negative. It consists, not in teaching the principles of virtue or truth, but in guarding the heart against vice and the mind against error." With him the entire education of the child was to come from the free development of his own nature, his own powers, his own natural inclinations. His will was not to be thwarted.

Rousseau's definition of "negative" education:

By this negative education, expounded in most startling paradoxes, Rousseau did not maintain that there should be no education at all; but that there should be one very different *in kind* from the accepted educational practices. In one of his letters in defense of the *Émile* against the many attacks made upon it, the author wrote: "I call a positive education one that tends to form the mind prematurely, and to instruct the child in the duties that belong to a man. I call a negative education

training to precede instruction

one that tends to perfect the organs that are the instruments of knowledge before giving this knowledge directly; and that endeavors to prepare the way for reason by the proper exercise of the senses. A negative education does not mean a time of

idleness; far from it. It does not give virtue, it protects from vice; it does not inculcate truth, it protects from error. It disposes the child to take the path that will lead him to truth, when he has reached the age to understand it; and to goodness, when he has acquired the faculty of recognizing and loving it."

It is owing to this negative and critical form in which his ideas are stated, that Rousseau is so difficult to interpret, and that his educational ideas are held to be of little importance and influence. He can be understood only in the light of the times in which he wrote.

Education from One to Five. — The substance of his teachings concerning this first period is a condemnation of the customary restrictions of swaddling clothes, of restraints on freedom, and of indoor life; of the thwarting of natural inclinations and desires, and of punishment for acts before the child can have any conception of wrong or of why punishment is given. It includes extravagant praise of life in the country, of freedom, of sports and games, and of exercise. "The weaker the body, the more it commands; the stronger it is, the better it obeys. All the sensual passions find lodgment in effeminate bodies." "All wickedness comes from weakness. A child is bad only because he is weak; make him strong and he will be good. He who can do everything does nothing bad." Little attention is to be paid to his intellectual and moral development. Effort should be made, even, to restrict his vocabulary. "It is a great disadvantage for him to have more words than ideas, and to know how to say more things than he can think."

Education from Five to Twelve. — This, "the most critical period of human life," is to be controlled by the two principles that education should be negative and that moral training should be by natural consequences. Instead of attempting, as is ordinarily done, to give the child all sorts of ideas, nothing at all should be done toward molding or forcing his mind. Childhood is for its own sake. "Nature desires that children should be children before they

are men." The child need not be taught to read, though probably he will pick this up on his own accord. He will hardly know what a book is. "Exercise the body, the organs, the senses and powers, but keep the soul lying fallow as long as you can," is his advice. While the child knows nothing of books and of that which passes for knowledge, "on the other hand he judges, foresees, reasons on everything which is directly related to him;" for this education is to be largely a training of the senses, such as can be gained by intimate contact with the forces and phenomena of nature. He measures, weighs, counts, compares, draws conclusions, tests inferences, discovers principles.

Intellectual training through natural interests

Adolescence, the period of intellectual education: natural powers now greater than demands

Education from Twelve to Fifteen. — This is the one period in life in which the strength of the individual is greater than his needs. As intellectual training has for its general result the multiplication of wants without any corresponding development of power adequate to meet those needs, this is the one period in life in which greatest stress can be laid upon the acquisition of knowledge. But, after all, there are comparatively few things to be known that are of value. Curiosity — that ardor for knowledge which comes from natural desires and not from the desire to be considered wise — is the sole motive and the sole guide. The test of all is its practical use. "Let us then reject from our primary studies those branches of knowledge for which man has not a natural taste, and let us limit ourselves to those which instinct leads us to pursue," is Rousseau's statement of a principle far more widely accepted in this day than in his own. There is little of "book knowledge" even in this period. *Robinson Crusoe*, a study of "life according to nature," is the chief book recommended. Knowledge is to be clearly distinguished from truth and the *useful* from both.

Curiosity or "interest" the sole guide

Book knowledge not important

Among other things, Emile has learned a trade, "less for the sake of knowing the trade than for overcoming the prejudices which despise it." In his long discussions of the

importance of the manual and industrial activities in education, Rousseau emphasizes many of the social advantages, without comprehending at all the psychological advantages that are so emphasized at present. At the end of this period "Émile is industrious, temperate, patient, firm, and full of courage. . . . He has little knowledge, but what he has is really his own; he knows nothing by halves. . . . Do you think that a child who has thus reached his fifteenth year has lost the years preceding?"

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Education from Fifteen to Twenty. — Hitherto Émile's body, senses and brain have been formed; it is now time that his heart should be shaped. Hitherto the child has been educated solely for himself and by himself; self-love has been the controlling motive; self-perfection, self-development, the ultimate end. Now the youth is to be educated for life with others and is to be educated in social relationships. Love for others becomes the controlling motive; emotional development and moral perfection, the goal.

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Rousseau first called attention to the transcendent importance of the period of adolescence in education. "At this stage the ordinary course of education ends; but strictly speaking here one's should begin." Up to this time Émile has not been brought, save indirectly, into contact with others; he has not had to adapt himself to the conduct and interests of others; he has known no motives save those of self-interest and curiosity. He has probably never even heard the name of God. Now his education is to be strictly moral and religious. Previous attachments for persons have been merely the result of habitual association; now they are based on unity in sympathy and upon emotional experience. The whole character of his education changes. "The study proper for man is that of his relations. While he knows only his physical existence, he should solely study his relations to things; this is the employment of his childhood. When he begins to feel his moral existence, he ought then to inquire after his relations

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to mankind; for this is the proper occupation of his whole life, beginning from the period which we have now reached."

Basis of moral and religious education to be found in the emotional nature

Self-love, in which are latent both good and evil, is now to be turned irrevocably toward the good. The basis of all this is the emotional life. "From the first movements of the heart, arise the first utterances of the conscience; and, from the first feelings of love and hate, spring the first notions of good and evil." This training was to be secured in the earlier period by the preservation of his native modesty through the negative training. So now, not through precept, but through contact with men, through the example of his tutor, through the study of history, is this development to be secured.

Learning through doing

"I do not grow weary of repeating that all the lessons of young men should be given in action rather than in words. Let them learn nothing in books that can be taught them by experience." And yet Rousseau was far from preaching the dangerous doctrine that one should learn to avoid evil through

No necessity of experiencing the evil, to know of its consequences

experience of its consequences. "There is no ethical knowledge which cannot be acquired through the experience of others or through one's own. In case the experience is dangerous, instead of making it ourselves, we draw the lesson from history. When the trial is without consequences, it is well for the young man to remain exposed to it." Thus, Émile is taught not only to shun evil, but to do good. Especially the poor and the oppressed call for his sympathy and his assistance. While he is firm in the assertion of his own rights, and is quick to the defense and protection of others, he is an exponent of the virtues of peace. "The spirit of peace is the effect of his education."

Religious education

In a similar way Émile receives his religious education. "At the age of fifteen, he did not know that he had a soul, and perhaps at eighteen it is not yet time for him to be informed

Religious forms held to be worthless

of it; for if he learns it too soon, he runs the risk of never knowing it." This last clause contains the underlying principle of his teaching concerning religious education. Otherwise, the

religious ideas which the child gets are mere forms, verbal imitations, worthless so far as real experience is concerned.

The essence of Rousseau's educational doctrines

SOME PERMANENT RESULTS OF ROUSSEAU'S INFLUENCE. The Education of Natural Interests vs. the Education of Artificial Effort. — The fundamental theories of Rousseau can be given briefly. Education is a natural, not an artificial, process. It is a development from within, not an accretion from without. It comes through the workings of natural instincts and interests, and not through response to external force. It is an expansion of natural powers, not an acquisition of information. It is life itself, not a preparation for a future state remote in interests and characteristics from the life of childhood.

Contrast between the "natural" education and the dominant "formal" and repressive education

The old conception of education aimed to remake the nature of the child by forcing upon him the traditional or customary way of thinking, of doing, and even of emotional reaction. It substituted for the instinctive or "natural" reaction of the child those artificial reactions developed through many generations of religious, intellectual and social formalism. Human affections were evil, and hence the heart was to be separated from the objects of natural desire. Human senses were untrustworthy, and hence could not be made the basis of knowledge or of instruction. Human inclinations and instincts, springing from a nature depraved in its essence, were toward the evil and were to be eradicated. Natural interests, as expressions of the nature which both education and religion sought to repress and make over, were to be shunned in all educational processes. To the extent that an activity or task was difficult to perform intellectually and was distasteful emotionally, to this extent it possessed educational value. The first step in the moral education was to "break the will of the child," which in its perverseness but represented the evil of human nature. This was to be followed in his social and moral education by the constant effort to mold the child into the artificial forms of conduct satisfactory to the judgment of the adult, even though such forms might conceal motives contradictory to the external expression.

Religious and philosophical estimate of child nature coincided with the traditional educational view

so also did the psychological

As seen in the preceding chapter, the dominant psychological views implied the same attitude. The mind as a bundle of faculties was to be developed by exercising these various powers upon appropriate tasks whose value consisted in the difficulties they offered. These faculties were considered to have no necessary connection with one another, hence these disciplines were separate and distinct things. The highest of the faculties —the reasoning power— was to be developed by appropriate discipline in mathematics, logical disputations and the languages. But the faculty upon which all the others depended, was the memory. Discipline of the memory, then, took precedence above all other exercises. The best training for the memory was afforded by the mastery of material which had no inherent interest for the child.



A Fashion Plate of the early Eighteenth Century

Showing the ideal of child-life as the adult in miniature.

The social basis of the old "formal" education

The social ideals of the time favored this same view. The child was considered but a miniature adult — of no value and of no rights until he could mimic the way of the adult. In this most artificial of all ages, in dress, in manners, in deportment, in pleasures, the child was molded on the pattern of his seniors. Previous to the Rousseau period, the child as he appeared in literature was merely the adult viewed through the wrong end of the telescope. He spoke as an adult, thought as an adult, acted as an adult. Educationally he studied the same subjects as the

adult, — preëminently the languages; approached them from the same logical point of view, through formal grammar; mastered them through sheer effort of memory; made the same formal use of them, in the same artificially organized life.

All the subsidiary precepts of Rousseau were but concrete applications of his one general protest against this entire conception of education. "Take the reverse of the accepted practice, and you will almost always do right," he advised. Hence he reiterated in a variety of forms the thought that, "Whatever may happen, abandon everything rather than have the child's tasks become irksome; for how much he learns is of no account, but only that he does nothing against his will." Thus in Rousseau is found the negation of the conception of education of the Renaissance and of all of its subsequent development.

The Conception of Education as a Process — as the process of living — follows as a corollary from the preceding. Being a process, it lasts throughout life, or at least from birth to adult life, and finds its meaning for any particular stage, not in a future state, but in the process itself.

> "What must we think," he asks, "of that barbarous education, which sacrifices the present to the uncertain future, which loads a child with chains of every sort, and begins by making him miserable in order to prepare for him, long in advance, some pretended happiness which it is probable he will never enjoy?"

Education is no longer a procedure, — artificial, harsh, unsympathetic, repressive of all natural inclinations, — by which the child as a little man is made into a big man through the hands of the teacher. But, through allowing natural forces to have their way, it is the process of development into an enjoyable, rational, harmoniously balanced, useful, and hence natural life. The end is reached, not with adult life, but with each succeeding day, whenever life has its natural activities, its appropriate duties and its corresponding satisfactions.

A Simplification of the Educational Process follows. If education as an artificial procedure, as a making over of the

Process of instruction should be simple and direct

child at the hands of man on the model conventionalized by society, is done away with, the highly elaborated artificial methods of instruction have no further use.

Object teaching

"Let us transform our sensations into ideas, but let us not jump abruptly from sensible objects to intellectual objects; for it is through the first that we are to reach the second. In the first movement of the mind, let the senses always be the guides; let there be no books but the world and no other instruction than facts. The child who reads does not think, — he merely reads; he is not receiving instruction but learning words."

Direct study of nature

The latter criticism is as pertinent in regard to much of school work now as in the days of Rousseau. He would have geography learned in the woods and fields, by the observation of the position of the sun and the earth, by the study of the stream, the rain and the changes of temperature; astronomy by the study of the heavenly bodies; botany by the study of plants; the necessary facts and fundamental principles of physics and chemistry by observation and experimentation; mathematics as it is needed in these other activities and in economic relations; history alone through reading.

Study of all subjects to begin at home

Geography, history and all subjects were to begin at home; only that which can be thoroughly comprehended should be attempted, and only that which is mastered should be passed over. "In general, never substitute the sign for the thing itself, save when it is impossible to show the thing; for the sign absorbs the attention of the child and makes him forget the thing represented." Most widely heralded educational discoveries or reforms of the present are but more practical attempts at realizing these principles formulated by Rousseau.

Education centers in the child

The Child the Positive Factor in Education.—To John Locke belongs the honor of writing the first book on education that deals primarily with the child; but to Rousseau belongs the honor of deriving his educational theories from the nature of the child. It may be admitted that Rousseau had little actual knowledge of child life and child nature and that his sympathy for children was pure sentimentalism,

which was never converted into actual practice. It is true, nevertheless, that here for the first time education finds its purpose, its process and its means wholly within the child life and the child experience. An appropriate development of childhood is the purpose of each particular stage of education; the child's nature and the child's growth are to determine the process; the child's experience is to furnish the means. All of the pregnant reforms of Pestalozzi, of Herbart, of Froebel, and of the multitude of other reformers of lesser influence, thus find their origin in the teachings of Rousseau. In a similar way sympathy with childhood is emphasized as the qualification for all educational work. Made theory by Rousseau, made practice by Pestalozzi, sympathy with the child, intellectually, morally, personally, has come to be recognized as an essential in the educative process.

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The Foundation of the Nineteenth Century Educational Development. — In Rousseau's teachings, notwithstanding their extravagance, is to be found the truth upon which all educational development of the nineteenth century is based. Rousseau was the prophet denouncing the evil of the old; foretelling, yet seeing vaguely and in distorted outline, the vision of the new. He became the inspiration of those educational reformers who reduced his vagaries to practicable procedure. He was the forerunner of many who, all unconscious of their indebtedness to the despised revolutionist, have followed in the trails he blazed until now they have become the broad highway of common travel. The three interpretations which Rousseau gave to his doctrine of nature mark out the lines of educational development during the nineteenth century.

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As nature to Rousseau meant the native instincts, tendencies, capacities of the human being as opposed to those acquired through association with his fellows, he became the forerunner of the educational psychologists. There grew out from this, especially in connection with the work of Pestalozzi, Herbart,

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and Froebel, the most important and most fruitful development in the whole history of education. The fundamental idea of this tendency in educational thought derived from Rousseau is that education is a natural process. It starts from natural instincts and tendencies to action, and should be controlled by principles derived from the study of the child mind in development and of the adult mind in its functionings. In a similar way Rousseau's teaching that the educational material should be the facts and phenomena of nature, strongly reënforced the scientific tendency in modern education.

His influence on the introduction of the natural sciences

Finally, in Rousseau's teaching that education should prepare the individual to live in a society wherein each should contribute by his own labor to his own support, should be bound by sympathy to all his fellow-men and by benevolence to all that needed his aid, he laid the foundation for the sociological tendency in education. In his individualism he clearly emphasizes the idea of a social education of a new type. This is seen in his introduction of an occupation as a component part of education, in his rejection of the formal education of the times fostered by and fostering in turn the dominant aristocratic classes of his day, and in his emphasis upon the emotional and moral as opposed to the intellectual aspect of education.

His relation to the social conception of education of the nineteenth century

Effect on schoolroom not immediate

EFFECT OF THE NATURALISTIC TENDENCY UPON SCHOOLS. — So profound an influence does not have its effect on schools immediately. The effects are seen only when the results of these later tendencies, especially of the psychological, are discovered. Immediately those results were slight; ultimately they were so general as to defy measurement.

Results in France prevented by the Revolution and by the Napoleonic régime

In **France**, where the influence of Rousseau on thought and sentiment was most profound, the old régime was so thoroughly intrenched in the social organization that change could come only as a result of a violent revolution. In addition to this, the teachings of the *Émile* were looked upon as direct attacks upon the aristocracy and upon the Church. Hence the vested in-

terests and authority of both were invoked against it. Many of the *cahiers*, or books of wrongs and grievances of the early Revolution, contain complaints and recommendations concerning schools. In general, a demand was made for a national plan for education. The work of the Revolution was chiefly to lay the basis for the institutional organization of education. Much was projected but little was carried out. Education was to be universal and to be free; but it was also to be largely political and social. Even this work, the discussion of which belongs more properly under the sociological tendency, was largely checked by the Napoleonic reaction.

In England the results are seen chiefly in literature

In England, where Rousseau's literary influence was very great, and where his social ideas found many converts, his educational ideas received little support. A considerable literature on the subject of education, influenced more or less by Rousseau's ideas, now appeared, and the rather extensive child literature of the early nineteenth century was a direct outgrowth of the influence of the *Émile*.

First reduced to practice by the Germans

In Germany, the work of Basedow, Salzmann, Campe, and their schools was the immediate expression of the naturalistic views and represents the first positive formulation in practice of those revolutionary ideas given only a negative form by Rousseau.

Basedow's early career

Johann Bernard Basedow (1723–1790) gave, in his early career and in his irregular course as a student, evidence of his erratic though talented nature and of his unstable character. Becoming professor of philosophy in a Danish Academy (1753), he was later transferred (1763), and, though yet salaried by the government, was soon compelled to give up all teaching on account of his unorthodox views. From 1763 he deluged Germany for many years with a succession of publications, and by his persistency succeeded in making his influence felt in spite of violent opposition on the part of all the traditional orthodox forces. For the first few years he was chiefly interested in reform in philosophical and religious teaching; most

His educational works

of his publications were of a religious character, propagating Rousseau's idea of natural religion and morality. Coming under the influence of the *Émile*, from 1767 he directed his attention wholly to educational reform. In 1768 he issued *An Address to the Friends of Humanity and to Persons in Power, on Schools, on Education, and its Influence on Public Happiness*, which contained a plan for a complete system of reformed elementary education. Advertised through many preliminary publications,



A "NATURALISTIC" SCHOOL, FROM BASEDOW'S *Elementarwerk*.

supported by subscriptions from all parts of Europe from royalty and commonalty alike, this *Elementarwerk* finally appeared in 1774. At the same time was published his *Book of Method for Fathers and Mothers of Families and of Nations*. This *Elementary Work*, for children, which appeared in four volumes with one hundred plates of illustrations, was a combination of the ideas of Comenius, Bacon and Rousseau. It

was the first step since the time of Comenius to improve the character of the work of the school through the preparation of appropriate text-books and the radical revision of the subject-matter of school work. It aimed first of all to give a knowledge of things and of words quite similar to the encyclopedic plan of the seventeenth-century reformer. This knowledge was primarily a knowledge of natural phenomena and forces; in the next place, a knowledge of morals and of mental phenomena; and, lastly, of social duties, of commerce, of economic affairs. The "natural methods" of Rousseau appeared as the second great feature of the book. Thus through the "method of experience" children were to be taught to read, both the vernacular and Latin, without weariness and without loss of time. In a similar way the truths of religion and of morality were to be imparted without the accompanying prejudices, narrowness and formalism of existing religious teaching. These volumes were soon in almost every home of the middle and upper class in Germany, just as were the *Émile* and the *New Héloïse* of Rousseau in the preceding decade. As Basedow aimed to reform private as well as public education, the effect of this propaganda was profound. Basedow and his followers, among whom Salzmann and Campe were the most important, soon produced a wholly new literature for children. As for the first time there was an education designed wholly for children, not controlled by the needs, character and interests of adults, so also this was the first literature designed for children.

His educational principles and methods

Children's literature

Notwithstanding the many defects of Basedow's personality, and the fact that he was totally unable to carry out his own reform plans because he was so unpractical, Schlosser states that "he succeeded in effecting a complete change in the whole nature of education and instruction in Germany, which Rousseau was able to accomplish neither in his native country nor in France."

The Philanthropinum.[1] — In 1774 was founded the long-

[1] A concrete description of the work of the Philanthropinum, translated from Von Raumer, is to be found in Barnard's *German Teachers and Educators*, p. 462.

The new "naturalistic" schools

heralded institution, erected to illustrate the principles of reformed education and termed the Philanthropinum. This institution at Dessau was the parent of many others, more or less short lived, but existing long enough to exert a profound influence on the education of children throughout the Teutonic countries.

Educational principles embodied in these new schools

The fundamental idea of the reform was "education according to nature," which was interpreted to mean that children should be treated as children, not as adults; that languages should be taught by conversational methods, not through grammatical studies; that physical exercises and games should find a place in the child's education; that early training should be connected with "motion and noise," since children naturally love these; that each child should be taught a handicraft for reasons partly educational, partly social; that the vernacular rather than the classical languages should constitute the chief subject-matter of education; that instruction should be connected with realities rather than with words.

Manual training and object teaching

The strong emphasis upon the training of teachers reacted favorably upon the entire German school system. The introduction of "turning, planing and carpentering" into the regular course of study of the Philanthropinum for educational purposes is the earliest practical recognition of the purely educational value of positive character to be found in manual work. School instruction from objects and from pictures here found general use in a system of schools. The connection between the out-of-door life and the process of instruction was made more intimate. The principle that all instruction has a

Moral aim of all instruction

moral because a practical outcome, and that formal moral instruction is of little value when not thus connected, was embodied in their work. It will be recognized that all of these ideas are worked out more explicitly by later reformers, especially Herbart, Pestalozzi and Froebel.

SUMMARY

The dominance of arbitrary authority, exercised by absolutism in government, orthodoxy in religion, traditional classicism and the disciplinary conception in education, produced during the eighteenth century a vehement and revolutionary reaction. The earlier aspect of this movement, known as the Illumination or the Enlightenment, was largely intellectual and aristocratic. It included a rationalistic revolt against orthodox religious views, an aristocratic revolt against absolutism in Church and state, a revolt against Puritanism in morals. It resulted in a skepticism in religion, a cynical formalism or polished immorality in conduct, and an aristocratic indifference to the rights and needs of the masses. The revolutionary tendency in the latter half of the century became known as the Naturalistic Movement, and was emotional rather than intellectual, democratic rather than aristocratic, and was directed toward social reform rather than toward class or individual aggrandizement. Voltaire was the leader in the first movement, Rousseau in the second. Rousseau formulated the new ideas in regard to social, family and political reform, and finally in the *Émile* in regard to education. Education should not aim to instruct, but simply to allow natural tendencies to work out their natural results. Education should not aim to repress or to mold but to shield from artificial influences. Natural instincts and interests should control, close contact with nature should furnish the occasion and means of education. Only in the adolescent period and later should attempt be made to supply wider knowledge and to establish connection with social life through moral training. Out of Rousseau's teaching came the "new education" of the nineteenth century based on interest. It gave direct impetus to the clear formation of the psychological, sociological and scientific conception of education. These are the various aspects of nineteenth-century thought and practice in education. The immediate application of Rousseau's teachings was attempted by Basedow and the "philanthropinists." The successful amplification of the naturalistic doctrines was made later by Pestalozzi, Herbart and Froebel.

Chronological Table of Educational Development during the Nineteenth Century

Political Events and Personages	Literary Men, Religious Leaders, etc.	Scientists and Philosophers	Educational Writings and Educators	Educational Events
1800.	Goethe 1749-1832	Hegel 1770-1831	Pestalozzi, *How Gertrude Teaches* . 1801	1803. Sunday-school Union f.
1804. Bonaparte emperor.	Wordsworth 1770-1850	Cuvier 1769-1832	Jacotot 1770-1840	1805. Public School Society of New York.
1807. Class distinctions and serfdom abolished in Germany.	Byron 1788-1824	Comte 1798-1857	Herbart, 1776-1841	1806. University of France f.
1814. Bonaparte at Elba.	Scott 1771-1832	Faraday 1791-1867	Froebel 1782-1852	1806. Neef introduces Pestalozzi in United States.
1815. Congress of Vienna.	Coleridge 1772-1834	Hamilton 1788-1856	Thomas Arnold 1795-1842	1808. First treatise on education published in United States.
Frederick William 1797-1840	Irving 1783-1859	Liebig 1803-1873	Rosmini 1797-1855	1809. University of Berlin founded.
1810-1830. Freedom of South American States.	Cooper 1789-1851	J. S. Mill 1806-1873	Herbart's *General Pedagogics*, 1806	1808-1811. Von Humboldt head of German schools.
1817. Wartburg demonstration for freedom.	Emerson 1803-1882	Herbert Spencer 1820-1903	Horace Mann 1796-1859	1804-1844. Fellenberg's School at Hofwyl.
1830. July Revolution in France.	Thackeray 1811-1863	Buckle, *History of Civilization* 1857	Rosenkranz 1805-1879	1811. National Society for Promotion of Ed. of the Poor.
1830. Reform bill in England.	Dickens 1812-1870	Darwin, *Origin of Species* 1859	George Combe 1788-1858	1813. First State superintendent of ed. in United States (N.Y.).
1833. Slavery abolished in British colonies.		Agassiz 1807-1873	Froebel, *Education of Man* . . 1826	1814. British and Foreign School Society.
1846. Corn laws repealed.		Darwin 1811-1882	Spencer, *Essay on Education*, 1861	1818. Lancaster comes to U.S.
1848. French Revolution.		Wallace 1820	Alexander Bain 1818-1887	1821. First legislative aid for education of women (N.Y.).
1851. New French Empire.			Henry Barnard 1811-1900	1821. First High School (Boston).
1854. Crimean War.			Stoy . 1815-1885	1827. All schools free in Massachusetts.
1870. Franco-Prussian War.			Otto Frick 1832-1892	1835. Cousin's *Report* published in United States.
1871. German Empire founded.			Tuiskon Zeller 1817-1883	1837. Mount Holyoke seminary for women.
1871. The Union of Italy.			R. H. Quick 1831-1891	1837-1849. Mann Secretary of Mass. Bureau of Ed.
				1837. First kindergarten.
				1837. First city superintendent of schools.
				1838. First State normal school in United States (Mass.).
				1843. School Board in New York City.
				1850. Kindergartens forbidden in Germany.
				1860. First kindergarten in U.S.
				1861. First Ph.D. in U.S.
				1862. Morrell land grant for agricultural and technical education.
				1867. Elective system at Harvard.
				1867. United States Commissioner of Education.
				1867. All State schools free in New York.
				1869. English Endowed School Act.
				1870. Elem. Ed. Act in Eng.
				1873. Kindergarten part of public school (St. Louis).
				1890. Berlin School Conference.
				1896-1897. University of France reorganized.

CHAPTER XI

THE PSYCHOLOGICAL TENDENCY IN EDUCATION

THE GENERAL CHARACTERISTICS. — The psychological tendency is not clearly distinguishable in time, in place, or even in personnel from the sociological and the scientific tendencies. The three movements find their immediate antecedent in the naturalistic movement and are to be distinguished educationally chiefly by differences in emphasis and in point of view. The more important of these characteristics of the psychological tendency may be summarized as follows: —

Relation to the naturalistic, scientific and sociological tendencies

In its main features this tendency was merely the clarifying and developing of the principles of naturalistic education. Its basal thought was that education is not an artificial procedure by which one acquires a knowledge of the forms of language and literature or of formal knowledge of any sort, but that it is an unfolding of capacities implanted in human nature. The psychological tendency was an effort to state these ideas in scientific form and give them a concrete formulation in actual school procedures.

(1) A reduction of naturalistic principles to schoolroom procedures

It is true the psychological tendency sought a reconciliation of the conflict between the old "education of effort" and the new "education of interest." But since the old remained intrenched for many decades of the nineteenth century, the chief work of the new was to destroy it by conflict. The rank and file of the new educators, without that grasp of the problem possessed by the great leaders in the movement, emphasized almost exclusively the importance of the new method and consequently of interest. Hence it was this aspect of conflict rather than that of reconciliation that was ever most prominent.

(2) An attempted reconciliation of interest and effort: in reality a continuance of the conflict

However profound may have been the effort of Herbart and Froebel to effect this reconciliation, in the popular conception there was an irreconcilable opposition. A brief extract, contrasting the main ideas of these two views, will serve as an illustration.

A review of one of Pestalozzi's works by Caroline Frye, in her *Assistant of Education*, Vol. ix, p. 263 (1827)

"Of the second work, Pestalozzi's *Letters on Early Education*, we have little to say. A book written for the inhabitants of Mars, if there are any, would almost as much come under our task of criticism. If there be a people between the Alps, in the bosom of whose offspring there is an innate principle of faith and love, that needs only to be cultivated and cherished by the sacred power of innocence, to produce pure morality and exalted devotion, this book belongs to them. It need not have been put into English, or any language into which the word of God has been translated; for it belies it utterly. We have no such children to educate, and therefore the book is useless to us. I could not help comparing the following passage, one among many such, of Pestalozzi — 'I would, in the first place, direct your attention to the existence and the early manifestation of a spiritual principle, even in an infant mind. I would put in the strongest light that there is in the child an active power of faith and love; the two principles by which, under the divine guidance, our nature is made to participate in the highest blessings that are in store for us. And this power is not, as other faculties are, in a dormant state in the infant mind. While all other faculties, whether mental or physical, present the image of utter helplessness, of a weakness which in its first attempts at exertion only leads to pain and disappointment, that same power of faith and love displays an energy, an intensity, which is never surpassed by its most successful efforts when in full growth' — we could not help comparing with curiosity this dream of Socinianism, with some sentences from a Christian author[1] we happened to take up on the same day: — 'No sooner do children begin to act at all, but we discover how universally sin has pervaded all the sources of intelligence. There is a greater pleasure in reflecting on the images of crime than on the character of piety; the conscience is enfeebled and oppressed; its voice is stifled and its actions perverted; the imagination delights to revel over scenes of iniquity, and is difficultly carried forward to anticipations of future happiness, glory, and praise: the will is enslaved by selfishness; the imitation of all that is wrong is most easy, — of all that is right is most onerous, — the judgment is prone to perpetual error; the evil passions grow and flourish, while the good are educated with difficulty.' The Christian

[1] Newham, *On the Principles of Education.*

mother will compare these opposing principles with the testimony of Scripture and of her own heart, and will have no difficulty in deciding in which author to study the principles of education."

(3) Education now based upon a rational psychology

The new educational conception of man's nature was closely bound up with the similar thought now developing in science and philosophy. Educationally, "nature" now came to indicate the nature or mind of man. The principles upon which education was to be based were now sought for in a knowledge of the activities and the development of the human mind. The scientific formulation of these principles of psychology, through observation and experimentation, was hardly begun before the middle of the nineteenth century. The application of these principles to education is yet largely the work of the future. But the attempts toward such a foundation for education were begun in the early part of the century.

The significant truth reached was that a more scientific interpretation of human nature was now possible, and that an adequate conception of education and formulation of more fruitful processes of instruction must be based upon the results of such study. To this general tendency, vague and indefinite as it was in its application to education, we have here given the term psychological.

(4) Interest in nature and method of education

This tendency aimed at improvement in the character of education; whereas the complementary movement, which in the same general way may be characterized as sociological, aimed at the more general diffusion of education. The modifying influence of these psychological tendencies was directed chiefly to improvement in the method of instruction, in the spirit of the schoolroom, in the character and training of the teacher, and in the popularization of a broader and truer conception of the nature of education.

(5) Sympathy for, and knowledge of, childhood

Thus there followed a sympathy for childhood, a knowledge of the child, of the child mind, of the child's interests and abilities, that were entirely absent from the schoolroom in all previous ages. While the actual knowledge of the child mind

was at first slight and was for a long time gained by empirical means alone, yet educational practice came to be based upon a study of childhood, and the theories concerning education came to be formulated from data gathered during actual contact with the child.

(6) Attention to the elementary stage in education

Consequently, the chief interest in education was diverted to an entirely different phase of the educational process. For many centuries, it will be recalled, the interest in education was in the secondary and higher stages. All the early reformers the realists as well as the humanists, thought especially of the acquisition of foreign languages and literature as the chief work of education. Little or no attention was given to the elementary stage. Comenius, it is true, wrote of infant and vernacular schools, but he supervised and wrote text-books for the Latin schools. The chief immediate interest of almost all those participating in this new tendency was in the elementary stage. From that time to the present, the formulation of educational theory and the improvement in educational practice have, with few exceptions, related primarily to elementary education. The attempt to apply many of these principles in unmodified form to higher stages of education has often been detrimental in its results.

(7) Education defined in terms of individual development

A fundamental conception of the psychological tendency was that education is the process of the development of the individual. This accorded with the individualizing tendencies of the later eighteenth and early nineteenth century, with the ideas of social progress, of biological development, and of evolution in all its scientific and philosophical implications, that during the same period were becoming clarified. The thought and even the form accepted for two or three generations was that given by Pestalozzi; namely, that education is "the harmonious development of all the powers of the individual." The same general idea, in different terminology, due to more accurate knowledge of psychology, is now expressed in terms of "organization of acquired habits of action or tendencies to behavior." This

conception of education in terms of individual development is an essential feature of the psychological conception of education, and is one great contribution of the late eighteenth and the early nineteenth century to education.

(8) The bearing of the psychological interpretation on universal education

This conception has its sociological significance also, and coincides with the tendency toward universal education in one respect. For if education is the process of development of the individual, if it is at basis a natural rather than an artificial process, then it is a process through which all human beings pass, and a process from the regulation and direction of which all can profit. Consequently there results an emphasis upon popular and universal education that was not possible so long as the chief interest was in higher education, and so long as education was the process of giving to the child or forcing on the child the ideas, emotional reactions and activities of adults.

The theoretical and logical *vs.* the concrete and practical phases of the movement

The psychological movement possessed two aspects. One, practical and concrete in character, attempted through experimentation to work out general principles. The other, metaphysical in its characteristics, aimed at the formulation of the logic of education. The men representing the practical movement — Pestalozzi, Herbart, Froebel — merely expressed the dominant ideas gained from the thought movement typified by Kant, Fichte, Schelling, Schleiermacher and Hegel. Only the representatives of the practical movement will be considered here.

The Pestalozzian Movement includes the work of many educators

THE PESTALOZZIAN MOVEMENT. Character and Significance of his Work. — It must be understood at the outset that much more is included under this subject than the personal work and influence of Pestalozzi. It is a very common error to overestimate the importance of this one reformer in the history of education, and a gross exaggeration to attribute to him the entire educational reform movement of the early part of the nineteenth century. Pestalozzi merely made positive and concrete the negative and general educational principles enunciated by Rousseau; and, as we have seen, there were many others,

notably Basedow and his group, who were successfully engaged in the same work. Moreover, the ideas and practices generally grouped under his name are largely due to the work of his assistants and of the innumerable teachers of succeeding generations who have labored along the lines first indicated by him. Later educational theorists, especially Herbart and Froebel, possessed all of the practical insight of Pestalozzi, with a fuller philosophical penetration than his, and a broader knowledge. They have built upon his work a more extensive and stable structure of educational doctrine than the Swiss reformer was able to work out.

Pestalozzi merely laid foundation for further reforms

No one, however, has been more just than Pestalozzi himself in recognizing the limitations of his work, and in realizing that the particular form which he gave to his ideas was merely tentative. This point, made emphatic by the reformer, is often overlooked by his expositors and disciples.

Pestalozzi's recognition of the limitations of his own work

The value of our study of Pestalozzi in connection with the general psychological tendency in education lies not in the acceptance of his views as final, but in the recognition of his theories as containing the germs of modern educational ideas.

The real importance of Pestalozzi

In the face, then, of his lack of any philosophical and organizing ability, his lack of accuracy, of consistency, and of practical success, it becomes necessary to restate the basis of his importance in educational history. What he did do was to emphasize the new purpose in education, but vaguely perceived, where held at all, by others; to make clear the new meaning of education which existed in rather a nebulous state in the public mind; to formulate an entirely new method, based on new principles, both of which were to receive a further development in subsequent times, and to pass under his name; and, finally, to give an entirely new spirit to the schoolroom. He it was who first made clear and forced upon the public the position that the whole problem of education was to be considered from the point of view of the developing mind of the child. The significance of much of Pestalozzi's work lies in the fact that

experimentation was now substituted for tradition as a basis for educational work. Hence its value consists, not in any particular form of experiment, but in the final results attained or yet to be attained. Consequently, more than in the case of any other man in the history of education, it is necessary to study Pestalozzi's life and experience in order to understand his ideas. They are the direct outgrowth of the experimental life which he led.

Experiment *vs.* tradition as the basis of work in education

Life and Works. — Heinrich Pestalozzi (1746–1826) was early influenced by the naturalistic movement, especially by *Émile*, and became an ardent revolutionist as all humanitarians then must have become. Abandoning in turn his preparation for the ministry, for the law and for public service, he entered finally upon an agricultural life, with the double purpose of improving a waste tract of land through new methods of cultivation and of living a life in accord with the prevalent naturalistic ideals. Failing in this business venture, he turned the establishment into a philanthropic institute for destitute children. Meanwhile, in the education of his own child, he was led to see many of the deficiencies as well as the excellencies of the education described in Rousseau's *Émile*. Thus began his life's great task, in the positive formulation and modification of these ideas. His first educational work, entitled *A Journal of a Father*, — one of the earliest examples of child study, — was a further result of his experiences in the education of his son.

Influence of the naturalistic thought on Pestalozzi

The philanthropic venture mentioned above was an educational experiment as well, for it was but an application of the doctrine advocated by the naturalists, that the character of an individual is shaped by his environment. Reduce this environment to as nearly natural conditions as possible, they held, and character will be formed or developed. From 1775–1780 Pestalozzi conducted what was probably the first "industrial school for the poor." The children were engaged in raising special farm products, in spinning and weaving of cotton and in other occupations. While so engaged they also spent some

Experiment at Neuhof in the education of orphans

time in reading and in committing passages to memory and especially in arithmetical exercises. There was no real connection between the occupations and the intellectual activities, but Pestalozzi demonstrated that the two could at least go on together. But the combined functions of manager, farmer, manufacturer, merchant, schoolmaster, were beyond the ability of the reformer, and the experiment failed.

Period of literary activity, 1780–1798

During the next eighteen years, 1780–1798, Pestalozzi, as a participant in the revolutionary movement, devoted himself chiefly to literary activity. The fundamental thought of all his writings, whether on political or educational subjects, was the same. Social and political reforms were to be brought about by education — not the current education, but a new process of development that would result in the moral and intellectual reform of the people. This principle is complementary to the partial one upon which he based his work at Neuhof.

Leonard and Gertrude

The most popular of all Pestalozzi's writings, the one that exerted the most influence, was his *Leonard and Gertrude*, the first volume of which was published in 1781. Written as a novel, it popularized the idea that he initiated in practical reform a generation later. The purpose of the book was to depict the simple village life of the people and the great changes caused therein by the insight and devotion of a single ignorant woman, Gertrude. By her industry and patience and skill in educating her children she saves her husband, Leonard, from idleness and drink. Neighbors, children and neighboring families are finally brought within the influence of the new ideas; and by the simple methods of this peasant woman this new purpose in education effects the reform of the entire village. What was done in Bonal, Pestalozzi held could be done in every village. This was his mission in life: to work out in detail the methods of this education that was to effect the regeneration of society by securing for every child that moral and intellectual development which was his natural right and inheritance.

In 1798 there occurred a complete change in Pestalozzi's

career. He at length realized that the way to establish education as the means to social reform was to demonstrate in a practical way its efficiency. Consequently, he turned schoolmaster. No more remarkable testimony concerning the value and the validity of his fundamental educational ideas can be found than in the profound and lasting influence which he has exerted. This man who did not begin to teach until fifty years of age and who, from the practical point of view, failed in every enterprise he undertook in his long life, after all has had more influence than any other one person in the educational progress of the nineteenth century. One chief reason for this was that his ideas were the results of experimentation. Consequently the truths reached were not completed and closed formulas, but rather suggestions for the guidance of the work of education. Since the concrete personal elements to be dealt with are never fully determinable in advance, education must always partake somewhat of the nature of experimentation.

Turns practical school teacher

In the year mentioned, Pestalozzi accepted the charge in one of the districts of Switzerland of a large number of children who had been made orphans through the massacre of the people by the French soldiery. With these orphans at Stanz were first worked out the germs of the new educational practices. As in the case of his earlier experience, his fundamental purpose was to combine educational activities with handwork. But now he saw not only that the two could be carried on together, but that, if an approach differing from that of the ordinary schoolroom was made, much of the experience that was most valuable for mental development came directly from those activities in which the children were immediately interested. But the fortunes of war terminated this experiment in less than a year.

The orphan school at Stanz

In the following year, Pestalozzi, now a discredited visionary, was accepted as assistant teacher in the village at Burgdorf. For the cause of educational reform this brief experience was fraught with great importance, for here was first worked out the significance of the object lesson, not as a mere means of

Village schoolmaster at Burgdorf

gaining knowledge of the word, or even of the thing, as with Comenius and earlier reformers, but as a means of mental development. Here Pestalozzi first announced his great aim, "I wish to psychologize education." The recognition that the public failed to give was furnished by some friends among the progressive officials and by some schoolmasters, appreciative of the great significance of these new ideas, who now attached themselves as assistants. A private school, partially endowed by the government, was established. Here for some four years Pestalozzi continued to experiment along the line of the new thought, both with the pupils and with the teachers.

Principles of education formulated

The great purpose now clearly held before him was to answer the fundamental educational question, which was a challenge to the existing education respecting its purpose and its means. These inquiries were to determine what knowledge and what practical abilities were necessary for the child, and how they could be furnished to the child or obtained by him. This period produced Pestalozzi's most systematic work — *How Gertrude Teaches her Children* (1801) — which was an attempt to answer the above questions.

An educational propaganda starts from Burgdorf

His work at Burgdorf, directed both toward the education of the children and the training of teachers, was watched with great interest by publicists and philanthropists, was assisted by the government, and was widely discussed through pamphlet and magazine controversy. But withdrawal of the meager though necessary support, together with disagreement among the directors of the institute themselves, led to its abandonment. Pestalozzi then withdrew to Yverdun for his last and longest experiment.

The institute at Yverdun

Among this French-speaking people, with whom he believed his reform would make more rapid headway, Pestalozzi labored for twenty years. Here, more than hitherto, his efforts were directed toward the training of teachers and direct experimentation in reforming educational practices.

Influence of Pestalozzi on Education. (*a*) *As to Purpose.* —

Throughout his long life Pestalozzi was moved by the conviction that we have found to be common to most educational reformers since the early Renaissance; namely, that education is to become the chief means to social reform. This idea, however, possessed a peculiar significance during the latter half of the eighteenth century, since that was a period in which the greatest variety of remedies for social evils was advocated. Every form of Utopia found its devotee, while the practical means chosen by all was revolution. Throughout this period of turmoil, the voice of Pestalozzi in suggesting education — a new education — as the means for social regeneration became clearer and clearer.

Education the means social reform

Few among those that in previous periods had held education to be the means for social regeneration had considered that it was necessary for the masses. Such as had were chiefly the Reformation leaders, who viewed the entire subject from the religious point of view. Even those, such as Comenius, who took a broader point of view and held that the education of the masses in every phase of knowledge was desirable for reasons other than the religious, were far from the thought of Pestalozzi. The latter had in view a conception of education that had little or nothing to do with the comprehensive encyclopedism of Comenius, but related solely to the development of the child's nature, mental, moral, physical. In other words, what Rousseau had demanded in a theoretic way for one individual, Émile, Pestalozzi demanded for every child, no matter how poor and humble his surroundings or how limited his capacities. Hence Pestalozzi's demand for universal education of the masses possesses a significance only grasped when one conceives the difference between the old conception of education and that which he advanced. Pestalozzi gave a saner interpretation to Rousseau's doctrine concerning the detrimental influence of the arts and sciences. He held that through the identification of learning in the literary sense with education, popular education comes to be a mere form without any resulting benefits for the masses,

Education for the masses not as a religic necessity b as a natur right

Modificati of Rousseau's theory of the evil influence of the arts ar sciences

while the learned classes grow into greater power and into in difference to the needs of the masses. In *How Gertrude Teaches* he says: —

The existing ducation ccentuated nd per- etuated lass dis- inctions

"Europe, with its system of popular teaching, has fallen into error, or rather it has lost its way. On one side it has risen to an immense height in the sciences and arts; on the other it has lost the whole foundation of natural culture for the bulk of the people. No part of the world has risen so high; no part has sunk so low. Our continent resembles the great image mentioned by the prophet; its golden head touches the clouds, but popular instruction, which should bear this head, is like the feet of clay. In Europe the culture of the people has become vain babbling, as fatal to faith as to true knowledge; an instruction of mere words which contains a little dreaming and show which cannot give us the calm wisdom of faith and love, but, on the contrary, leads to unbelief and superstition, to selfishness and hardness. It is indisputable that the mania for words and books, which has absorbed everything in our popular instruction, has been carried so far that we cannot possibly remain long as we are. Everything convinces me that the only means of preserving us from remaining at a civil, moral, and religious dead level is to abandon the superficiality, the piecemeal, and infatuation of our popular instruction, and to recognize intuition (*i.e.* mental development) as the true fountain of knowledge."

(*b*) *The New Meaning of Education.* — In defining the new conception Pestalozzi started, as did Rousseau, with the contrast between the accepted educational usages and the natural development of the child. What education should mean he indicates in the following words: —

The new ducation escribed

"Sound education stands before me symbolized by a tree planted near fertilizing waters. A little seed, which contains the design of the tree, its form and its properties, is placed in the soil. The whole tree is an uninterrupted chain of organic parts, the plan of which existed in its seed and root. Man is similar to the tree. In the new-born child are hidden those faculties which are to unfold during life. The individual and separate organs of his being form themselves gradually into unison, and build up humanity in the image of God. The education of man is a purely moral result. It is not the educator who puts new powers and faculties into man, and imparts to him breath and life. He only takes care that no untoward influence shall disturb nature's march of development. The moral, intellectual, and practical powers of man must be nurtured within himself and not from artificial substitutes. Thus, faith must be cultivated by our

own act of believing, not by reasoning about faith; love, by our own act of loving, not by fine words about love; thought, by our own act of thinking, not by merely appropriating the thoughts of other men; and knowledge, by our own investigation, not by endless talk about the results of art and science."

Education as organic development

Education as conceived by Pestalozzi is but the organic development of the individual, — mental, moral, physical. This development comes in each of these phases through activities initiated by spontaneous desire for action. These lead to growth along lines which are predetermined by the nature of the child. Such development does not come by forms of procedure established by custom. To quote the definition in its more traditional form, education is the natural, progressive, harmonious development of all the powers and faculties of the human being.

Education as a means of social development

Starting from the new purpose that Pestalozzi gave to education, the elevation of the common people from their ignorance, squalor and misery, he was compelled to give to it a new meaning. The growth of the individuals composing the submerged portion of humanity into the moral and intellectual maturity for which they as well as the chosen few were destined, constituted education. He found in each individual the germs of all the powers, sentiments, aptitudes, that were needed for their successful and useful participation in their walks of life and in the satisfaction of the needs of society.. The existing education did not accomplish this adjustment. It sought merely to acquaint the child with forms, — forms of religious dogma through the catechism, forms of thought through the mere ability to read words, forms of practical or scientific procedure through the memoriter knowledge of mathematics, or the forms of culture through the dead languages. Real education was to do something infinitely greater. It was to develop in the child the elements of power implanted there by nature, by furnishing to him, in appropriately selected and graded series, the materials of experience needed for the natural exercise of these capacities.

Relation to the early formulation of the theory of evolution

This general idea of growth and of organic development through activity had been formulated by Lamarck into a general philosophy or scientific hypothesis, and had received many special applications. It was Pestalozzi's work to apply it to the schoolroom, and to attempt to organize activities appropriate both to intellectual and to moral development.

The character of the schoolmaster in the traditional school

Influence on Educational Means and Method. — The significance of the Pestalozzian reform in method can be appreciated only when the character of the contemporary schoolroom is kept in mind. The village watchman, the bricklayer, the ropemaker, the crippled soldier, the widow, or any one whose occupation did not consume all his time or furnish him with complete living, was chosen as schoolmaster. More frequently the convenient house which they occupied was of greater importance than their qualification as teachers. The method in which this work was done is thus described by Diesterweg: —

Methods of teaching in the traditional school

"Each child read by himself; the simultaneous method was not known. One after another stepped up to the table where the master sat. He pointed out one letter at a time, and named it; the child named it after him; he drilled him in recognizing and remembering each. They then took letter by letter of the words, and by getting acquainted with them in this way, the child gradually learned to read. This was a difficult method for him, a very difficult one. Years usually passed before any facility had been acquired; many did not learn in four years. It was imitative and purely mechanical labor on both sides. To understand what was read was seldom thought of. The syllables were pronounced with equal force, and the reading was without grace or expression. Where it was possible, but unnaturally and mechanically, learning by heart was practiced. The children drawled out texts of Scripture, Psalms, and the contents of the catechism from the beginning to end; short questions and long answers alike, all in the same monotonous manner. Anybody with delicate ears who heard the sound once would remember it all his life long. There are people yet living, who were taught in that unintelligent way, who can corroborate these statements. Of the actual contents of the words whose sounds they had thus barely committed to memory little by little, the children knew absolutely almost nothing. They learned superficially and understood superficially. Nothing really passed into their minds; at least nothing during their school years. The instruction in singing was

so better. The master sang to them the psalm tunes over and over, until they could sing them, or rather screech them, after him. Such was the condition of instruction in our schools during the sixteenth, seventeenth, and two thirds of the eighteenth centuries; confined to one or two studies, and those taught in the most imperfect and mechanical way."

Universality of such schools

While this was the character of the schools of Switzerland and of Germany, those of other countries were no better, if as good. That such was the condition of the average district school in the United States well into the nineteenth century and of the average elementary school in England much later is well known. The school which Pestalozzi wished to substitute was to be a transformed home, approximating the same relationships, duplicating the same spirit, seeking the same ends; that is, the moral and intellectual development and the material betterment of the child. It is the peculiar excellence of Pestalozzi that he was the first to make great progress in indicating the practical way in which these new educational ideas could be realized.

The new school, a transformed home

The inductive method applied to educational procedure

The essential thought of the Pestalozzian method is comparatively simple. The fundamental endeavor was to analyze knowledge in any particular line into its simplest elements, as these present themselves naturally to the attention of the child. These were to be acquired not simply in their form, but in their real inner meaning by the process of observation, or sense impression (intuition, it was often called). These elements of knowledge were further to be developed by a progressive series of exercises graded by almost imperceptible degrees into a continuous chain. Such exercises were to be based primarily upon the study of objects rather than upon the study of words. The object lesson, then, was the core of the method. But it was not the object lesson as often employed in later times, for the mere purpose of obtaining a knowledge of the object, or even of developing powers of observation. Its real use was as a basis for the entire mental development of the child. "Mental" arithmetic, the syllabic and phonetic methods in language work, and the study of geography and of nature in direct con-

The object lesson

tact with natural environment were some of the innovations in method.

Effect on text-books

In general, the arrangement of all modern text-books is a direct though not necessarily an immediate outgrowth of Pestalozzi's efforts at analyzing the subject into its simplest elements and proceeding then, by a gradual increase in the complexity of the material, to build up a connected and symmetrical understanding of the subject. The old method of beginning with a mastery of rules and principles as in arithmetic, of the rules of abstract form in language, or of most general relations, as in geography, history and the natural sciences, has been gradually superseded.

Morf, one of Pestalozzi's ablest disciples, summarizes the general principles of these methods as follows: —

Summary of Pestalozzian principles

(1) Observation, or sense-perception (intuition), is the basis of instruction. (2) Language should always be linked with observation (intuition), *i.e.* with an object or content. (3) The time for learning is not the time for judgment and criticism. (4) In any branch, teaching should begin with the simplest elements and proceed gradually according to the development of the child, that is, in psychologically connected order. (5) Sufficient time should be devoted to each point of the teaching in order to secure the complete mastery of it by the pupil. (6) Teaching should aim at development, and not at dogmatic exposition. (7) The teacher should respect the individuality of the pupil. (8) The chief end of elementary teaching is not to impart knowledge and talent to the learner, but to develop and increase the powers of his intelligence. (9) Power must be linked to knowledge, and skill to learning. (10) The relation between the teacher and the pupil, especially as to discipline, should be based upon and ruled by love. (11) Instruction should be subordinate to the higher aim of education.

Sympathy, the only basis of relationship between teacher and pupil

Influence on the General Spirit of the Schoolroom. — In regard to method, as Pestalozzi himself stated in an exaggerated way, "half the world" was working on the same problem. The new purpose in education was held by many others, — public men, religious leaders, philosophers and educators. In defining the new meaning of education, Pestalozzi was but making more

explicit the ideas of Rousseau, Basedow and others. His peculiar excellence was in making evident, through all his writings and all his work, that a new spirit must pervade the schoolroom, that both teacher and pupil must breathe a new atmosphere, — the atmosphere of the home. This change of spirit is clearly indicated by a comparison of accompanying illustrations; one of the typical German school before Pestalozzi's time, the other of Pestalozzi's school at Stanz. In other lines, more recent times have developed the germs of the ideas suggested by the unlettered reformer; but in this one respect, every modern schoolroom is so directly indebted to him that he may yet be called, as he was by his own teachers and followers, "Father Pestalozzi."

THE HERBARTIAN MOVEMENT. Its Relation to Pestalozzianism. — Herbart built upon the work of Pestalozzi, but soon elaborated a scheme of educational principles far more fundamental. (1) The chief practical emphasis of Pestalozzi's work was on training in sense-perception. While these exercises in observation were for the purpose of developing "clear ideas," Pestalozzi did not show how mental assimilation and mental growth take place from this starting point. Herbart showed how the product of sense-perception could be converted into ideas, through the apperceptive process, and how knowledge could be made to bear upon moral character through the process of instruction. (2) Pestalozzi made the study of the physical world through sense-perception the chief activity of the school. Herbart made the moral presentation of the universe the chief end of instruction. (3) As a result, the emphasis which Pestalozzi placed on arithmetic, geography and the nature studies is replaced in Herbart's theory by an emphasis on the classical languages, on literature and on history. (4) Pestalozzi announced his purpose of "psychologizing education." But, while he rejected the old psychology, he did not and could not construct any system of his own. Herbart did quite as notable work in this line as in constructive educational thought. (5) In

Difference, (1) in use of "observation" or training in sense-perception;

(2) in conception of ultimate aim;

(3) in appropriate subjects of study;

(4) in their knowledge and use of psychology:



A Typical German Schoolroom of the Eighteenth Century.



PESTALOZZI IN HIS SCHOOLROOM AT STANZ.

(5) in logical character of their work

general, Herbart's work was the antithesis of Pestalozzi's, in that it was logical and philosophical in character, while Pestalozzi's possessed no logical form or system and little definitely formulated philosophical basis. The one possessed the comprehensive view and calm logic of the philosopher; the other, the intense emotionalism and strong purpose of the reformer working toward immediate betterment, though with no adequate view of the ultimate end.

His school training

Life and Works of John Frederick Herbart (1776–1841). — There is little in the life of Herbart that throws light upon his educational doctrines. Passing through the traditional course of the gymnasium and university, at the age of twenty-one he

His teaching experience

left the university for a three years' experience as private tutor. From this experience he formulated much of his educational doctrine, and enunciated the belief that any real knowledge of the psychology of education can be gained, not from the study of children in masses, but only from a prolonged intimate study of the mental development of a few individuals. He returned later to study and then to give instruction in philosophy and in education in the University of Göttingen. Here and at the

His university career

University of Königsberg he spent the remainder of his life. At the latter place he established his pedagogical seminar with a practice school attached, the forerunner of the university type of instruction and experimentation in the subject of education. While as a member of school commissions he took some part in educational reform, his life for the most part was spent in investigation, lecturing and publication.

The place of the child in education

Herbart's Psychology. — The movement which Locke began in making the child the center of educational endeavor and pedagogical theory; which Rousseau established in general form through his brilliant critical and destructive work in the form of investigative literature; which Pestalozzi brought down to the schoolroom and made concrete in the hands of every teacher — that movement Herbart made permanent by giving it an actual scientific basis in place of the imaginative one of Rousseau and

the empirical one of Pestalozzi. We are here concerned only with the main educational applications, not with an exposition of Herbart's psychology. This at most points has been developed and modified through the investigation of the intervening century. At many important points his theory has been entirely superseded.

Fundamental tenet of Herbart's psychology, a unified, mental life

The fundamental point is that Herbart established educational work upon the basis of a unified mental life and development. As previously noted, the prevailing psychology was the Aristotelian "faculty" psychology, popular even to-day. To Herbart, the soul is a unity, not endowed with intuitive or inborn faculties, but a blank at birth, possessing but the one power of entering into relation with its environment through the nervous system. Through these relations the mind is furnished with its primary "presentations" of sense-perception, and from these the whole mental life is developed. The interaction of these presentations leads through generalization to concepts, and by similar processes of interaction to acts of judgment and reasoning. What the teacher has to work with is a mass of presentations, coming from two main sources, — experience, contact with nature; and intercourse, contact with society. Through the expansion of the one original power the teacher has to develop *knowledge* from experiences and *sympathy* from intercourse.

The mind develops through its own experiences, through acquisition of "presentations"

Education controls this process of assimilation or growth and can thus determine intelligence and character

The mind or soul is built up or acquires a content, not through the development of inherent faculties, but through its own experiences. It is inherently neither good nor bad, but develops one way or the other according to external influences, — that is, according to what it receives in the way of presentations and the manner of their combinations. Two corollaries of tremendous importance to education follow: (1) The chief characteristic of the mind is its power of assimilation; (2) education, which determines what presentations the mind receives and also the manner in which they are combined into higher mental processes, is the chief determining force in shaping both mind and character.

This basal assimilative characteristic is *apperception*

Herbart's educational doctrines are thus founded upon the assimilative function of the mind, — apperception. In brief, apperception is the assimilation of ideas involved in the relationships of a new experience by means of ideas already acquired. So far as the immediate importance of this doctrine to the teacher is concerned, it is immaterial whether one agrees with Herbart in rejecting all inherent constitutive powers of the mind or not. For such original powers, if existent, are beyond control, and the best that the teacher can do under any circumstances is to direct the development of the mind through control of this assimilative process.

The nature of the will as neither free nor fatalistically determined, but as an outgrowth of experiences which can be controlled

Conception and Purpose of Education. — Herbart derived his conception of education from philosophy as he derived its aim from ethics. The will is not any independent faculty of the mind that can originate actions that are independent of ideas or thought processes, but it is a functioning of the mind, growing out of and wholly dependent upon the ideas or presentations possessed by the mind. This conception of the will is fundamental and must be kept in mind throughout any consideration of Herbart's doctrines. The will is to be viewed as the product of experience, not, as popularly viewed, as the determining cause of action. The apperceptive process is fundamental, because ideas lead to action, and action determines character.

The aim of education is virtue

The aim of education, according to Herbart, is ethical. "The one and the whole work of education may be summed up in the concept, — morality," is the opening sentence of the *Æsthetic Presentation*. To him virtue was "the idea of inner freedom which has developed into an abiding actuality in an individual." That is, it is an evolutionary product in each individual, resulting from a cumulative series of experiences, because each relation entered into calls forth an independent judgment of approval or disapproval. To develop this attitude of preference for that which constitutes "inner freedom" or moral character into an "abiding actuality in the individual" is the chief aim of education. The process of doing this constitutes

The moral presentation of the world is the purpose of instruction

the "æsthetic presentation of the universe," through "experience, human converse and instruction."

The five elements i virtue

Herbart's analysis of virtue was not left in formal terms, but was reduced to five moral relationships or ideas. The fundamental one was that of inner freedom — the harmony between the volition or desire on the one hand and insight and conviction on the other. To this were added efficiency, or perfection (the balance or harmony of the Greeks); benevolence, or good will; justice; and equity.

The work instruction is (1) to furnish the mind with proper presentations and (to lead to their appli cation in action

The nature of the aim of education having been determined, there arises a second point in Herbart's theory concerning the nature of education. The concrete work of education is (1) to furnish the mind with presentations or experiences, and (2) upon the basis of these presentations to "complete the circle of thought" through ideas and motivation to action. As previously noted, presentations furnish the elements out of which the mind is composed; thus far Pestalozzi went. But it is the second point taken in connection with the first that is significant in Herbart's doctrine. Morality depends upon good will and knowledge; these in turn upon the general enlightenment of the whole man, in other words upon the ideas developed from the interaction of primary presentations. There is no independent function of willing in the individual. Action is the result of motivation, or desire springing from these presentations, influenced by good-will springing from the same source. Hence the importance of the instruction given by the teacher.

"Educativ instruction is that whi thus influences conduct

The third point in Herbart's theory follows; namely, this formation of character, which is dependent upon the shaping of the will, is determined by *educative instruction*. This follows from two subordinate principles: (1) that these presentations which constitute the content of the mind are modifiable (through the apperceptive process), and (2) that these presentations determine conduct. Conduct and character, then, depend primarily upon the sort of presentations acquired by the mind, and upon the manner in which they are acquired or given. The worth of

moral as well as mental instruction depends upon following the proper psychological procedure in the building up of the more complex presentations. In other words, it is the business of the teacher to determine the kind and the relation of the presentations that constitute the content of the child's mind; by so doing he shapes the child's conduct, and thus his character. If these primary presentations have been fully acquired; if the proper and harmonious relations have been established between them; if from the presentations derived from social intercourse the appropriate sympathy or good-will has also been developed, then the good moral character is the outcome. In the process of rejecting that which is erroneous and evil the pupil finds or develops his true self, his character; it is "a making which the pupil himself discovers when choosing the good and rejecting the bad." The extent to which the teacher is competent to produce such results is thus stated: "The capacity for education, therefore, is determined not by the relationship in which various originally distinct mental faculties stand to one another, but by the relations of ideas already acquired to one another and to the physical organism." Instruction in the traditional sense, and even in the Pestalozzian sense, is insufficient.

Capacity for this true education does not depend upon inherent capacities but upon proper relationship of ideas

"Instruction in the sense of mere information contains no guarantee whatever that it will materially counteract faults and influence existing groups of ideas that are independent of the imparted information. But it is these ideas that education must reach; for the kind and extent of assistance that instruction may render to conduct depend upon the hold it has upon them."

Instruction can be made educative through interest

Such instruction, then, that modifies the groups of ideas already possessed by the mind and causes them to form a new unity or harmonious series of unities, and that thus determine conduct, is alone educative. A volition is but an idea that has passed through complete development, in which the circle of thought, beginning with interest and ending with action, has been completed. This *educative instruction* that reaches and forms the will or determines volitions, and thus shapes char-

acter, is the proper work of the school. The immediate means to this educative instruction is by arousing in the child's mind a "many-sided interest."

Herbartian Means and Method. *How Instruction can be made Educative.* — The presentation of the doctrine of interest, which here must be given in a few words, constitutes the bulk of Herbartian literature, both of Herbart's systematic works, including the *Science of Education* and the *Outlines of Educational Doctrine*, and of those of his expositors and followers.

Definition of interest from *Outlines of Educational Doctrine*, Pt. 2, Sec. 2 Chap. 2

"The ultimate purpose of instruction is contained in the notion, virtue. But in order to realize the final aim another and nearer one must be set up. We may term it *many-sidedness of interest*. The word *interest* stands in general for that kind of mental activity which it is the business of instruction to incite. Mere information does not suffice; for this we think of as supply or store of facts, which a person might possess or lack and still remain the same being. But he who lays hold of this information and reaches out for more takes an interest in it. Since, however, this mental activity is varied, we need to add the further determination supplied by the term *many-sided*."

Relation of interest to instruction

Since volitions are the results of ideas, it becomes of utmost importance that the pupils should conceive a genuine interest in the subjects of study. Only thus do these ideas enter into organic relationship with the presentations already in the mind. To affect character permanently, these interests must be made abiding. The arousing of interest is not merely a means for securing attention in the lesson. It is the means for securing the complete appropriation of new ideas or presentations through their apperception, so that they enter into the constitution of new unities in the child's mind and thus form a new and more elaborate and secure basis for conduct. Such interest in the activity remains after the learning or apperceiving process is complete; by making it many-sided and proportionate, a harmonious and broad character is produced. It is the work of the teacher to blend the individuality of the pupil into many-sidedness, by the development of these many interests and activities through instruction. The more thoroughly this is

done, "the more easily will character assert its sway over the individual."

In order to accomplish this, the teacher must have a care for two things: first, for the selection of materials of instruction that will furnish the proper presentations both of experience and intercourse; and second, for a method of instruction that will harmonize with the psychological development of the child, and that will produce many-sidedness of interest as an inevitable result.

Herbart's selection of instructive material

Correlation of Studies. — The first of these essentials gives rise to the idea of the correlation or unification of studies. Herbart himself believed that the Homeric poems furnished the best materials for the education of boys. For here, he held, in the youth of the race were to be found the same activities and interests that were natural to the youth of the individual. This material was to be followed by other portions of the Greek and Latin literatures, combined with the study of certain periods in history, all selected upon the basis of the progressive complexity of the child's interests and consequently of the objective materials.

The culture epoch theory

This idea, expanded, was given a fuller application to education in the form of the culture epoch theory by some of Herbart's expositors, notably by Ziller. The idea in brief is that the stages of culture in the development of the race are paralleled by the stages of mental development of the individual. Consequently, in order to follow the proper order in the psychological development of the child, the materials of instruction should be selected and arranged according to the stages in the cultural development of the race. The culture epoch theory, however, is only incidental to the idea of correlation of studies, being but one means for determination, not only of the order of arrangement of materials, but of their selection as well. As a scientific hypothesis it was never demonstrated and is now considered to have little validity; as an educational theory, it possesses some suggestive value.

The idea of correlation itself demands only that the materials of instruction, even if classified into the various school subjects, should nevertheless be so organized that they preserve the unity which is essential to the development of a unified consciousness in the individual. In other words, the material should be so unified that it shall be wholly apperceived by the child as it is presented; and thus that it should strengthen and not, through its lack of connectedness and its dissimilarity, disorganize or make disproportionate this many-sidedness of interests, and consequently weaken the character of the child. The corr

Herbart and his immediate followers prepared a scheme of concentration of studies, or of the unification of all school instruction upon one central core study, either literature or literature combined with history. Some groups of his followers, notably some in this country, have elaborated schemes of coördination of studies. Coördination does not seek to find one central core study, but accepts a given number. In the scheme of Dr. W. T. Harris, five subjects are selected for logical and psychological reasons, as of equal value. These are to be organized so that the material is arranged in a psychological order and that the unities between the subjects are made evident and preserved. Various forms of concentration, based either on the literary and historical studies, or on nature studies, or, where combined with the Froebelian influence, on social activities direct, are frequently employed in the lower grades. In the higher grades few attempts, save at the coördination of studies, have been tried. The trati studi the c tion studi

General Method. — Since the early sense-realists a general method had been sought. Herbart was the first to work this idea out in detail so that it becomes a method for the immediate process of instruction by the teacher. This method consists in a given series of steps, determined not by the character of the material, but by the way in which the human mind acts and human consciousness expands. These steps are to be followed in every unit of instruction, which presumably is the recitation, The gene meth scien basis

Its formal character

though particular units may be determined rather by the subject-matter than by time limits. There is no particular virtue in these steps themselves, nor is the goal that Herbart aims at to be attained by the mere formal application of these steps to a recitation. This method is a mere form to aid in the realization of the great end of instruction. Of this external form, a successful teacher may be in entire ignorance; and even the teacher familiar with it should most often be unconscious of its use.

The basis of the formal steps

The immediate function of instruction is to furnish the mind with ideas, to establish their proper relationships, to connect them or color them with good-will or sympathy that will lead to moral action. The concept interest, which indicates the activities through which the mind expands into the many-sidedness of character, can be differentiated into certain steps; namely, observation, expectation, demand, action.

The "five formal steps" in the recitation:

Corresponding with these stages are the formal steps of instruction, — clearness, association, system, method, — which may be taken as the basal psychological principle of the recitation. By clearness is meant the apprehension of a single object — practically the observation of Pestalozzi. Ziller, who elaborated this plan of Herbart's pedagogy in its application to

preparation,

elementary education, divided this step into two: *preparation*, — the calling to mind of such older ideas as have intimate connection with the new to be imparted, and their arrangement in such an order as will explain the meaning of the new and tend to make lasting the impression which it makes; and the actual

presentation,

process of *presentation* so that the new will be wholly appropriated. Here the concrete materials are finally brought together so that a general idea is found. The third step is that

association,

of *association*, — the actual combination of the new with the old. This is the elementary stage in the apperceptive process, and this preliminary fusion is largely the work of the imagina-

system,

tion. The fourth step is *system*, — the complete separation of the general notion from its concrete embodiment in particu-

lars. The general concept is now to be related in a systematic way with previously acquired knowledge, so as to make an organic whole. This is the work of reflection and requires both repetition and definite form of expression in language. The fifth step is method or *application*. This is the progressive reflection of the pupil as he realizes the general concept gained through activities: the child must make application of his stock of ideas, as rapidly as they are gained, so far as is possible in the limited activities of a child's life. In this way the child's ideas develop and are fused into a harmonious and organic mental life, out of which grows, through suggestion and direction, his active life.

application

Herbartian influence reveals itself in a strong emphasis upon the importance of instruction and consequently upon the technique of the schoolroom, especially of the recitation, rather than on the general spirit as was the case with Pestalozzianism. He has truly summarized his system and thus indicated this influence: "Instruction will form the circle of thought, and education the character. The last is nothing without the first. Herein is contained the whole sum of my pedagogy."

Herbartian influence on technique of instruction

THE FROEBELIAN MOVEMENT. General Characteristics. — In contrast with these fundamental characteristics of the Herbartian movement, the Froebelian movement is characterized by an emphasis upon the importance of the child, upon his interests, experiences and activities as the starting point and means of instruction, and by an improvement in the spirit, purpose, "atmosphere" and *morale* of the schoolroom. One exalts the function of the teacher; the other exalts the importance of the child. Herbart laid the emphasis upon instruction as a means for forming moral character; Froebel upon the stimulated and guided activities of the child. To Froebel, education, beginning with the spontaneous activity of the child and leading from that to ideas and permanently formed volitional interests, was more largely an emotional and volitional than an intellectual training. The volitional, not as

Contrast with the Herbartian ideas

Emphasis on the child

with Herbart the intellectual, character of the human mind was asserted to be fundamental.

Universality of Froebel's principles

Froebel made the practical application of these new ideas to only one stage of education, the kindergarten. But the principles themselves, as formulated in his more philosophical works, are fundamental to all stages of education. The attempt to make this application to higher stages in the present and in the future is after all the true Froebelian movement. Some of the most profound changes in educational thought and practice of present times are in accord with these demands formulated by Froebel. Among these, two most fundamental ones may be taken as illustrative. One principle is that if the materials of instruction are to produce a real development of the child's mind and nature, they must be selected from life as it now is and as it affects the child and comes within his experience. A second one is that if education is to produce the results desired, both individual and social, the effects of school instruction must relate directly to life as it now is, through the activities of the child that form the culmination of the process of instruction. These two principles are receiving general acceptance among the leaders in education in the present and underlie the profound changes that are taking place in the subject-matter, organization and method of school work.

Present application of some of his theories

Instruction to begin with immediate social or natural environment of the child

Instruction to lead to some social activity

Life and Works of Froebel (1782–1852). — Froebel's early education was fragmentary and without definite purpose. It was unsatisfactory, as he later said, because there was no unity whatever between the subjects taught and no connection between the subjects of instruction and life. His youth was divided between university work and practical scientific work. He was in turn an apprentice to a forester, an accountant on large estates, a surveyor, and later a museum assistant in geological sciences. Out of all this experience came two fundamental results, — a profound love for nature and a conviction that throughout nature one found revealed that unity of idea and realization that was preached in the philosophy

His work as a scientist

of the university but nowhere found in educational work. At twenty-three he was persuaded to become a teacher in the Pestalozzian Institute at Frankfort, and thus discovered his life calling. After two years here he became private tutor to three boys whom he took to Pestalozzi's Institute at Yverdun, where he remained for two years more. From this experience came a devotion to educational reform, for which he now further prepared himself by completing his university course.

His early teaching experience

In 1816 he began his work of educational reform, inspired to this by his previous experiences. In a peasant's cottage, with five little children, he opened his "Universal German Educational Institute." The work was far more substantial than the similar work of Pestalozzi, because supported by far wider philosophical knowledge and by greater practical ability among the assistants. Its scope was far wider and was directed largely toward secondary studies. It was not until 1826, after the appearance of his most general treatise, *The Education of Man*, that Froebel turned his attention especially to the educational possibilities of the earliest years of childhood. Froebel had ever been a close student of children, and had even then made further progress in the use of play and the spontaneous activities of children than had ever been done previously.

Educational reform

The Education of Man (1826)

During some eight or ten years of unsuccessful practical attempts, — one of them at Burgdorf, where Pestalozzi had made educational experimentation famous, — Froebel crystallized his ideas concerning the education of the earliest years. In 1837, in the little village of Blankenburg, near Keilhau, he put into operation the first of these new institutions, to which two years later he gave the name of *kindergarten*. To this new educational propaganda, Froebel devoted the remainder of his life; for here in this virgin field the new educational ideas were more clearly expressed and more readily realized. During the period immediately following the establishment of the first kindergarten, the greater part of the Froebelian literature was produced. This literature was chiefly devoted to the practical

The kindergarten.

elaboration of these new kindergarten ideas and to a popularizing of the institution itself.

Connection with the idealistic philosophy of early nineteenth century

The Law of Unity, or Inner-connectedness, as the Basis of Education. — Froebel starts from the dominant idealistic philosophy of Kant, Schelling, Hegel and Fichte, against which Herbart continually protests. The fundamental tenet of this entire philosophical movement was to find the explanation of reality and of life, in the fundamental unity of existence of nature and of man in the absolute spirit. The absolute is no longer matter, it is self-conscious spirit. In this self-conscious spirit is found the explanation of the origin and the meaning of existence — both of man and of nature. To Froebel this spiritual reality was the source of all existence. The purpose of education was to expand the life of the individual until it should comprehend this existence through participation in this all-pervading spiritual activity. This *inner-connectedness* furnished the explanation of all reality; the realization of it in the life of the individual constitutes the aim of education. The opening paragraph of *The Education of Man* contains the whole theory in essence.

The absolute as self-conscious spirit

Idea of "unity" the keynote in his theory. Quotation from *The Education of Man*

"In all things there lives and reigns an eternal law. To him whose mind, through disposition and faith, is filled, penetrated, and quickened with the necessity that this cannot be otherwise, as well as to him whose clear, calm, mental vision beholds the inner in the outer and through the outer, and sees the outer proceeding with logical necessity from the essence of the inner, this law has been and is announced with equal clearness and distinctness in nature (the external), in the spirit (the internal), and in life which unites the two. This all-pervading law is necessarily based on an all-pervading, energetic, living, self-conscious, and hence eternal Unity. This fact, as well as the Unity itself, is again vividly recognized, either through faith or through insight, with equal clearness and comprehensiveness; therefore, a quietly observant human mind, a thoughtful, clear human intellect, has never failed, and will never fail, to recognize this Unity. This Unity is God. All things have come from the Divine Unity, from God, and have their origin in the Divine Unity, in God alone. God is the sole source of all things. In all things there lives and reigns the Divine Unity

The reign of law explains the unity of life

God. All things live and have their being in and through the Divine Unity, in and through God. All things are only through the divine effluence that lives in them. The divine effluence that lives in each thing is the essence of each thing."

Religious aspect of his thought

The intense religious feeling that pervades all of Froebel's writings thus finds its explanation. It is not something extraneous — tacked on as it were. It is the very breath of life of his system. Every being or reality participates in this essence and to that extent is capable of revealing it or, if conscious existence, is capable of attaining to it. Hence every object of nature can reveal God. The object of education is the realization of this destiny, the development of this essence into unity with the absolute.

Practical bearing of the principles on the schoolroom

This law of unity had certain fundamental practical relations to education with Froebel. From his belief in the reality of this unity Froebel drew his belief that nature revealed God to the child; hence there proceeded both his emphasis upon the use of natural phenomena and nature study with the child and his symbolic presentation of this material. He saw the unity in organic life, and thus became one of the earlier advocates of the theory of organic evolution; from this he was led to place an altogether new emphasis upon the study of nature, of botany, zoölogy, etc., by the child. He believed that the same unity was to be found in the inorganic world and that it became a symbol to the child of all the higher unity of thought and life. Consequently from this conception he derived his ideas of the use of the " gifts " in the kindergarten. In that which he drew from his own feeling of the universal as expressed in inorganic forms, — as in crystals, — there is much that is fanciful; the more so when the fundamental philosophical thought is not at all understood. Between the individual and the race, which form in reality but one great organic life which the school should epitomize, is to be found a higher unity. The school thus becomes an association for the child wherein he discovers in a simplified and idealized form all the relations of society. The

(1) Value of nature study; (2) of evolutionary study of biological sciences; (3) of scientific study and symbolic use of inorganic phenomena;

(4) the school as an idealized society; this a means of social development;

(5) unity between the periods of life of individual, and in stage of schooling;

true function of the school as a means of social progress as well as the instrument of individual development is thus revealed. In the life of the individual there is the same unity; that between the stages of infancy, childhood, youth, manhood, which is so set at naught by the school in its failure to comprehend this unity that education itself becomes but a form. Even more thoroughly than did Herbart, Froebel recognized the unity and the organic connection between the various subjects of study as a basis for a necessary reorganization of the school curriculum. Hence the theory of correlation of studies has received support among Froebelians, though with no adherence to particular schemes, as among Herbartians. In a similar way, this law of inner-connectedness gave to Froebel his conception of mental growth and led to an emphasis upon the unity of the knowing, feeling and willing activities. This view is much nearer the modern scientific theories of the nature of the mind's growth and activities than is the Herbartian psychology.

(6) unity between subjects of study;

(7) unity in mental life of the child

At every point Froebel found a unity between thought and life, which is to be developed by education. Education becomes the continuous progressive adjustment of the individual to the larger life, which is his by destiny and in which he must find his true self.

Application of theory of evolution to education

Development as the Process of Education. — The philosophical idea of unity demands as its accompaniment the idea of continuity of generation of all things. The individualism of the period of Rousseau gives way to the idea of organic unity and development. The scientific expression of this dominant idea is given in the theory of organic evolution. This idea Froebel seized and, first of all, applied to education. It is this that is found in his theoretical statements concerning the nature and process of education, and gives deeper meaning to the use of the *gifts* and the concrete activities of the schoolroom. The primary principle in both is that each following activity includes each preceding and earlier one. Evolution is the tendency of this unity to work itself out into the manifold expressions of spirit and of

the accompanying phenomenal expressions. Thus education is but a phase of the general process of evolution; it is a development by which the individual comes into realization of the life of the all-encompassing unity of which he is but a unit; a development by which his life broadens until it has related itself to nature, until it enters sympathetically into all the activities of society, until it participates in the achievements of the race and the aspirations of humanity.

Education but one phase of the unified process of growth or development

The essential idea of the *Education of Man* Froebel states as follows: "God neither ingrafts nor inoculates. He develops the most trivial and imperfect things in continuously ascending series, and in accordance with eternal, self-grounded and self-developing laws." Education is but the realization of the evolutionary process in its highest stage as revealed in the individual human being. Thus Froebel, first of all, states the view of education which is yet to prevail.

Education is the highest phase of the process of evolution

Self-activity as the Method of the Process. — In emphasizing the principles of self-activity as the method by which this development proceeds Froebel again indicated that he participated in the dominant thought-life of the early nineteenth century. He was moreover the first to make application of these ideas, common to philosophy and to science, to the problems of education. In the department of scientific thought the old idea of the hard-and-fast classification of forms of life had given place to a more general belief in the idea of development of lower forms into higher and of the connectedness of all forms of life. In this respect the general introduction of the term *biology* to indicate a general science of living forms is significant. At this time (1802–1809) Lamarck had advanced his theory that the higher forms of life developed from the lower, through the use and disuse of organs. This was but a special application of the principle of self-activity. Previously, evolution had been explained by such scientists or philosophers as believed in it by the varying influences of external conditions, such as climate. With Lamarck, the organism itself became the

Importance of the idea of functioning in the general theory of evolution

Lamarck's theory of the use and disuse of organs as a means of evolution

chief factor. As the use of the arm or of any particular muscle of the body will produce a corresponding development, so the effort of an organism to use any organ in a particular direction will produce a corresponding development; and conversely, its disuse will cause a proportionate atrophy.

This theory of functioning identical with that of self-activity

The prevailing philosophy of the times, especially as Froebel accepted it, held that there is a fundamental unity in all things, a permanent principle in all changes and forms of life. There is a single formative energy which reveals itself in nature, that is in external life, as force, and in consciousness of the inner life, as mind. This energy, as intelligence in the individual, builds up for itself its own world. The self — the mind — is not so much *possessed* of activity as it *is* activity. Through this activity it realizes itself, builds up its own world, becomes conscious of itself, and works out its own destiny. This is true both in the intellectual and moral application.

In his early educational work, Froebel realized the significance of this principle when applied to educational method. At Keilhau in 1825 a hostile government inspector had been compelled to comment as follows: —

Self-activity at Froebel's school at Keilhau

"Self-activity of the mind is the first law of this instruction; therefore the kind of instruction given here does not make the young mind a strong box, into which, as early as possible, all kinds of coins of the most different values and coinage, such as are now current in the world, are stuffed; but slowly, continuously, gradually, and always inwardly, that is, according to a connection found in the nature of the human mind, the instruction steadily goes on, without any tricks, from the simple to the complex, from the concrete to the abstract, so well adapted to the child and his needs that he goes as readily to his learning as to his play."

Self-activity is the process of self-realization through the union of nature and humanity

A few words further will indicate somewhat more clearly the educational significance of self-activity as the principle of method. Froebel emphasizes at every point that self-activity is the process by which the individual realizes his own nature, by which he builds up his own world or representation of the external, and by which it unites and harmonizes the two.

Thus the life of the individual is the process: (1) by which he knows nature, or the objective world; (2) by which he comes to know his own nature; and (3) by which he becomes a part of the life of both nature and humanity. In all of this the individual has determined his own activities and is free. So far as he works under compulsion of external force he fails to realize this unity.

The nature of self-activity

Self-activity is activity determined by one's own motives, arising out of one's own interests, and sustained by one's own power. It alone can produce this evolution of mind, it alone can secure that which is held to be the aim of education. Such activity is in a way compelled, since it is in response to the inherent nature of being and of the individual; but as the individual responds only in obedience to the force felt within his own nature, and not to one from without, such activity is free — it is *self*-activity. Because such activities are free, and at the same time take place according to law, — the laws of one's own nature, — it is possible to formulate them and to accept them as a guide to all educational work. Thus it follows that all processes of instruction must start from or originate with this volitional interest of the child. Beginning with his spontaneous activities, action may be sustained and may be stimulated toward certain ends that have far more permanent value than such activities undirected or uninfluenced.

Instruction must be based upon the interest and activity of the child

Forms of self-activity to be used in the school

Not only does the tendency inherent in the child's nature relate to conduct and action, but the child reveals the same spontaneous effort to indicate its conception of things, to reveal the processes of its own mind. It attempts through this revelation to bring about a harmony between the world of thought and the world of external reality. Such spontaneous efforts constitute self-activity, and give to the teacher the opportunity for instruction; that is, for creating a fuller harmony between the inner and the outer, between thought and the external world, than the child unaided would be able to do. Thus for the school, self-activity means this desire of the child to enter into

the life of others and the life around it; the desire to help, to find out, to discover, to participate in common activities, to create, to discover the identity or connection between itself and the activities and processes of others — the discovery which constitutes knowledge.

Aim of education not found in some future state, but in the immediate development of the child

Education is not a preparation for a future state. This life which the child seeks to enter is not the adult life, but the life around him. Education finds its meaning in the process, not in some condition remote and only real through the imagination. The aim of education is development, the process of education is development. In so far as the child enters to the full extent of his powers and his nature into unity with the life around him, the development of the present is secured. The development of the future is measured by the same standard. The aim of education is thus realized as fully in the child as in the adult.

Power of doing developed along with the process of acquisition

By basing education upon the activity of the child and gauging education by the child's self-activity, power of execution is developed to the same degree and in the same connection as the other acquisitions. There is no hiatus between knowledge and action; no conflict between theory and practice; no discrepancy between profession and deeds.

Froebel's conception of the school

Influence of Froebel on Educational Practice. — The school, to Froebel, was a place where the child should learn the important things of life, the essentials of truth, justice, free personality, responsibility, initiative, causal relationship, and the like; not by studying about them, but by living them out. According to the fundamental idea of unity, the school was to be an institution in which each child should discover his own individuality, work out his own personality and develop his power of initiative and of execution. He was to do this through coöperation with others in similar endeavors, in work where interest was shared by all, responsibility borne by all and rewards enjoyed by all. Mutual helpfulness was a constant motive. The school, as the world, was to become a unified organism in which the units of developing individuality were to

The school as an epitome of society

find their perfection through participation in the life of the world. Thus the school becomes a miniature society. Education becomes a phase of life, not as a preparation but as an epitome.

Instruction not synonymous with education

Instruction is no longer synonymous with education, nor even with school work. It becomes the middle term of a process which starts from the child's spontaneous activities and native interests and terminates in some creative use or tangible expression of the knowledge imparted by instruction. Upon the native tendency is thus grafted a habit or custom, a mode of activity and of thought, which is approved as a desired educational end. Thus education seeks neither to eliminate nature, nor to leave it severely alone, but to help nature, — to guide it to ends higher than those it would reach unaided.

Play an important form of self-activity to be used in education

Play. — As the most characteristic spontaneous activity of the child, play becomes the basis of the educational process in the early years. Resulting most directly from the native interests of the child, play furnishes the best natural stock upon which to graft the habits of action, feeling and thought approved by the educator. It is through play that the child first represents the world to himself. Consequently it is through play that the educator can give to the child the interpretation of life which he seeks to impart. Through it he can best introduce him into the world of actual social relations, give him the sense of independence and of mutual helpfulness, provide him with initiative and motivation and develop him as the individual constituting a unit in the social whole. Froebel did not stop with the theoretical demonstration of the educational value of play; he realized his ideas in the practical procedure of the kindergarten.

Manual activities as a form of self-activity to be used in education

Educational Value of Handwork. — Analogous to the use of play is that of all forms of constructive work. As a motive representing the same spontaneity as play, as an activity representing the concrete constructive process of making real an idea or a process of instruction, constructive work might form both the beginning and the end of the educational process.

Industrial training had been recognized as a phase of education by Rousseau, but upon social and economic grounds. Pestalozzi introduced object study and manual activities largely from the receptive point of view, that of imparting knowledge, or at best that of developing the sense-perceptions. Fellenberg made these more practically effective than had hitherto been done. Yet he hardly seized more than the social and economic import. On distinctly educational grounds, Froebel gave to all manual and industrial training and to all forms of constructive work the place which they are coming to occupy in modern schooling. Through them the child was to develop power, since each activity was to the child but an expression of some idea or purpose gained through instruction. The use of any object or material or bit of information introduced into the school is to find out what the child can do with it. Thus, in a broader sense than with Herbart, all culminates in application; in a broader sense than with Pestalozzi, all school work is constructive.

Comparison with ideas of constructive work in education

The great significance of constructive work, however, is found in the principle that education is but the development of the power to give outward manifestation and expression of the inner self. Creation with the hand is not the highest expression of this. But the development of the ability to give such material manifestations of ideas forms a basis of the higher power of expressing the intellectual, moral and spiritual life in action. When crystallized into habits, character is produced.

Educational value of constructive work

Nature Study in the Schools. — Here again Pestalozzianism and Froebelianism, as well as other minor streams of educational thought, converge. What has come to pass in the actual study of nature in the schools is a resultant of them all. But with Froebel the basal principles underlying this study are quite different from those held by others. Least important of all, with him, was the simple knowledge of the facts of nature; most important of all was the moral improvement, the religious

Educational value of nature study

uplift, the spiritual insight, which the child got from association with nature. As a source of natural interests and as affording opportunity for varied activity, nature study retains a place in elementary instruction as influenced by Froebel, altogether aside from either the value of the facts taught or of the symbolical spiritual import. As suggesting material for reading, writing, language work, constructive work, number work, nature study has come to play an important function in the school. Even when all of these ideas concerning the function of nature study are rejected, Froebel has influenced fundamentally the conception of this study as it is conducted in all grades. For it is no longer nature analyzed and dissected according to the old formal classificatory science, but it is nature as life — the plant as developing, the animal as acting, the organ as functioning — that is studied. While the symbolism is antagonistic to the modern scientific attitude, yet in the conception of nature, and of the value of science, and the use made of it in the school, it is quite in harmony with the modern scientific view.

A source of varied interests

The functional or dynamic conception of the study

The Kindergarten. — The fundamental thought of the kindergarten is to aid the child to express himself and thus produce development. To accomplish this he must start from his native interests and tendencies to action. The work of the school must be based wholly upon "self-activity" and must culminate in the expression or use of the ideas or knowledge acquired in the process of the activity. The primary aim is not acquisition of knowledge, but growth or development, in which knowledge functions merely as a means to an end. Knowledge is, as it were, a subordinate or by-product; yet always essential, if growth is to be secured. Both the acquisitive and assimilative processes — exalted into ends in all previous school procedures — are here wholly subordinated. Both appear in every completed educational process as stages preliminary to, or incidental to, the expression or constructive process.

These advanced idea of Froebel first made concrete in the kindergarten

The forms of expression of the child's feelings and ideas which

Correlations of the various forms of self-expression

Froebel seized upon as of importance in this training were (1) gesture, (2) song, (3) language. So far as possible these means were to be coördinate. The story, for example, when told by the teacher, was to be expressed by the child, not only in his own language, but through song, or gesture, or pictures, or construction of simple articles from paper, clay or other convenient material. In this way ideas would be given, thought stimulated, the imagination vivified, the hands and eyes trained, the muscles coördinated, the moral nature strengthened through the effort to put into concrete objective form the higher motives and sentiments aroused. The chief materials of the kindergarten, aside from the songs, the *Mutter und Kose-lieder*, Froebel organized into a series of "gifts and occupations." These are introduced gradually and in order. As the child becomes familiar with the properties of the one gift or the activities called forth by the occupation, he is led on to the next, which grows out of the preceding, each introducing new impressions and repeating old ones. The distinction between the gifts and occupations, though commonly made, is an arbitrary one. Froebel himself called all the activities occupations, and the materials for them, gifts. But the distinction seems to bring out a most prominent tendency in the development of the Froebelian principles; namely, that a much greater stress has come to be placed upon the occupations than upon the gifts. While Froebel rendered the greatest service to education in thus transforming his principles into concrete schoolroom procedures, yet it is evident that many of these, including the songs, were appropriate only to his age and to the people with whom he was familiar. To keep his principles effective, modification may be necessary in the present and future.

The materials of kindergarten instruction

Continuous modification and development necessary

Practical dissemination of Pestalozzian ideas and methods

EFFECTS OF THE PSYCHOLOGICAL MOVEMENTS ON SCHOOLS. The Pestalozzian Influence. — Both at Burgdorf and Yverdun, Pestalozzi's institute was frequented by numerous investigators, public men interested in education, students, even groups of students, from various countries of Europe. The

institute had been made a normal school, subsidized by the Swiss government. Later, Pestalozzian institutes were founded in Madrid, Naples and St. Petersburg. The monarchs of Russia, Prussia, Austria, and of the Italian states were personally interested in the reforms; and, as Pestalozzi said, any hedge schoolmaster, in order to succeed, had but to proclaim the use of Pestalozzian methods.

Nevertheless the popular introduction of the new ideas was very slow. This was due partly to the reactionary political policies then dominant in most European countries. The new educational ideas, outgrowths as they were of the teachings of Rousseau, were ever associated with revolutionary propaganda. Outside of the German states little progress was made until after the Revolution of 1830. Then in France, especially under Victor Cousin, minister of education, great advance was made, especially in the training of teachers.

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Among the German states Würtemberg first fell under the new influence. During the first decade of the century Pestalozzian enthusiasts had been appointed school inspectors and principals of normal schools. Prussia followed. The philosopher Fichte, in his address to the German people after the defeat at Jena in 1806, pointed out Pestalozzian education as the means of regeneration for the nation. The minister of education and the royal family were deeply concerned in the new educational movement. Picked young men were sent to Yverdun, and through them and the German assistants of Pestalozzi the new ideas were incorporated in the training of the teachers for the Prussian elementary schools.

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Much of the Pestalozzian influence exerted on the United States came through England. To this fact is largely due the formal and even superficial character of much of American Pestalozzianism, relating as it did to petty methods. However, not all of it was of this character, for the movement for the training of teachers, as well as the character of this training, were outgrowths of the Pestalozzian ideas. From the time of Neef,

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one of Pestalozzi's assistants, who was induced by a philanthropic American to settle in Philadelphia in 1808, sporadic instances of the transplanting of the new ideas occurred. The translation (1835) of Cousin's *Report on the State of Public Instruction in Prussia*, which did so much for the reform of the French schools, had great influence upon educational leaders in America. From the results of the reform movement, especially as he saw it in Germany, Horace Mann drew many of his ideas and much of his inspiration. His *Seventh Annual Report*, 1846, one of the most influential educational documents ever published in America, embodies the results of his personal investigation.

The Horace Mann movement

The most specific source of this influence, however, was what is known as the Oswego movement, begun in 1860. The ideas underlying this movement came indirectly from the Mayos in England and centered largely about the use of objects as the basis of instruction. The result was a previously unknown attention to the technique of instruction and to the details of special method. Such was the chief characteristic of normal school instruction during the generation following. Hence it comes that, for the most part, our schools are yet upon the Pestalozzian basis. However, the special methods of applying these principles have been much improved.

The Oswego movement

Pestalozzian methods, the basis for education of deaf and blind, and of juvenile offenders

One other practical effect of the Pestalozzian method on schools deserves at least mention; that is the new basis which it gave for the care of social dependents and defectives, especially paupers, semi-criminals, deaf mutes and the blind. From Pestalozzi's institutions for the poor sprang the agricultural colonies, especially those for juvenile offenders. The industrial occupations furnished a reformatory element hitherto wanting in criminal punishment. Guided by the principles of his master, one of Pestalozzi's assistants established a school for deaf mutes. The method of object teaching introduced hitherto unknown possibilities of developing such defective classes, while the industrial element gave them the prospect of economic independence, which was both a great gain for society and a

basis for self-respect and self-confidence hitherto denied these unfortunates. From these methods have developed modern methods of education of these classes.

Spread Herbart method through educati leaders

The Herbartian Influence being, as we have noted, largely one of principle, is not to be traced with any exactitude. The Herbartian propaganda, however, furthered as it had been by groups of educators devoted to the popularization of his thought, is readily described. It is the former which has specific interest in the history of education. Here, however, we must be content with indicating the extent to which Herbart's thought has entered into the educational consciousness of to-day as that consciousness is determining, in a practical way, the work of our schools. Undoubtedly, in this sense, the Herbartian thought has entered very largely into the best work of the ordinary school, for the progressive teacher everywhere, however unconscious he may be of the ultimate origin of those influences, shares to some extent in the educational purposes and endeavors of the time.

Univers instruct in educ and pra schools

The establishment of pedagogical seminaries and experimental or practice schools in connection with the universities was one of the more important educational works of Herbart. The seminaries at the Universities of Jena, Leipzig, and Halle were the more famous of these, and especially developed the Herbartian doctrines and applied them to practical work. At the former place, first Professor Stoy, later Professor Rein, have done most in applying these principles to elementary school work through the elaboration of general and special methods. It is from this course that the American influence has proceeded. From Professor Tuiskon Ziller, at Leipzig, came the more independent development of Herbart's original doctrine, especially the elaboration of the culture epoch theory and of the theory of concentration of studies. Around these and similar Herbartian principles has grown up a very extensive literature. From these two universities have gone out the most widespread influences, through trained teachers and instructors in

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normal schools and universities. Through these combined means the German schools have responded to these more advanced ideas, and have, so far as the character of instruction is concerned, reached a higher degree of excellence than any other schools.

Herbartian influences in the United States

In the United States the dates of publication of the Herbartian literature (c. 1890–1900) will indicate the recent origin of the movement. Though there were many other contributing forces, a most important one was the *Report of the Committee of Fifteen on Elementary Schools*, made to the National Educational Association in 1895. The aim of this report was to unify the work of the elementary school, to find a basis for that unity in a curriculum embodying some form of correlation of studies, and to prompt to better methods of instruction. A similar report five years earlier by a "Committee of Ten" aimed to perform this work of unification for secondary education, and to bring about a closer articulation of elementary, secondary and higher education. Through such means a very general influence is being exerted on the schools of our country toward placing the character of instruction on a higher basis than that reached through the Pestalozzian movements of some half century ago.

Influence of Froebelian ideas distinct from the influence of the kindergarten

The Froebelian Influence. — The influence of the Froebelian principles is practically coextensive with the most important educational tendencies of the present time. The application which Froebel himself made of his principles to the kindergarten is being made by others to more advanced phases of education. All that can be sketched here is the spread of the kindergarten as an institution.

The kindergarten in Germany

In Germany a number of institutions similar to that at Keilhau were established before Froebel's death. But in 1851, a year before that event, kindergartens were prohibited by the Prussian government on account of their supposed revolutionary character. The Baroness Bertha von Marenholtz-Bülow, to whom the actual popularization of the kindergarten was largely

due, transferred her activities, for the time being, to England. Though the Prussian prohibition was removed after ten years, kindergartens have not yet been incorporated into the Prussian school systems. While many private ones exist, they are not considered schools: their teachers do not have to comply with the standards required of elementary teachers, and, though they are under the supervision of school inspectors, they may not teach anything which will duplicate the work of the elementary schools. Consequently there has been comparatively little development of the kindergarten idea.

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France best illustrates the extensive development of schools for very young children. But these infant schools — the *écoles maternelles* — are rather a development of the infant school movement than of the kindergarten. Only to a slight degree do they embody the principles of Froebel. While these schools have developed for the most part since the War of 1870, and while their establishment is optional with the communes, yet in them are trained half a million children of the ages from two to six.

In Engl

First introduced into England in 1854, and advocated by a number of prominent men, such as the novelist Dickens, the kindergarten was established only in a few instances and then as a private institution for the wealthier classes. Not until 1874 did the ideas of the kindergarten begin to modify the work of the infant schools (see p. 385), which by this time had been incorporated as a part of the public school system. It was the procedure and methods rather than the principles and spirit of the kindergarten that were grafted on to this dominant institution.

In the United S

The first kindergarten in the United States was established by Elizabeth Peabody in Boston in 1860. In the next ten years a number of private kindergartens were established. Under the leadership of Dr. W. T. Harris and Miss Susan Blow, — among the most prominent Froebelian exponents in this country, — the kindergarten was first made a part of the public school

system in St Louis in 1873. Since that time the movement has developed until there is scarcely a city of any size but what has incorporated the kindergarten as a component part of its public schools.

SUMMARY

The psychological tendency in education was the reduction of the naturalistic movement to scientific principle and to practical schoolroom procedure. Its leading exponents attempted a reconciliation, in philosophical terms, of the old education of effort with the new education based on natural interests. Various attempts were made to work out a psychological basis for education. Many of the early attempts were empirical; more recently, the development of the science of psychology has rendered possible a more scientific basis. Other practical characteristics of the movement were (1) the new attention paid to method; (2) a new desire to base educational procedure upon a knowledge of and sympathy for the child; (3) a new interest in elementary education; and consequently (4) a new emphasis upon the possibility of universal education. The great eighteenth century representatives of the movement were Pestalozzi, Herbart and Froebel. With Pestalozzi and his followers, education was considered to be the harmonious natural development of the child, intellectually, morally and physically. The possibility of thus developing a perfected personality in all gave a new meaning to popular education as a measure of social reform. But such an education had little in common with the old education of acquisition of knowledge, which perpetuated social classes and the degradation of the masses. The idea of education as organic development gave a new meaning to educational means and method. With Pestalozzi, the subject-matter of education came to be chosen more largely from the immediate environment of the child and to be used largely for the development of the power of sense-perception. Principles of method demanded the analysis of subject-matter into its component parts and an observance of the inductive method in proceeding from the simple elements to the mastery of the complex topic or subject. The school was to be modeled after the home; the teaching process to be controlled by a sympathetic understanding of child nature. Herbart and his followers laid chief stress upon the moral aim in education. Control of conduct was to be secured through ideas. Thus the instructive process, including both the selection of material and the process of uniting this new material with the previous experiences of the child became of supreme importance. These ideas were based upon a psychology, scientifically elaborated, in which the process of apperception and the control of interests were the chief theories. As a result

the Herbartians elaborated a theory of subject-matter based on the epochs of cultural development; a theory of the organization of the curriculum based on the correlation of studies, and upon the unity of experience and of knowledge; and a theory of a formal method based on a knowledge of the psychical process. The Herbartian influence exalted the teacher and the instructive process. The Froebelian tendency laid chief emphasis upon the importance of the child, upon self-activity as the basis and method of all instruction, upon natural interests as the initial point of all instruction, upon play, constructive work and study of nature as the chief means of instruction. The Froebelian philosophy is in accord with the chief principles in recent educational thought. These are (1) the supreme importance of natural interests in the selection of subject-matter and in the process of study; (2) the necessity of giving to all such learning processes, once begun, a social meaning drawn from present life; (3) the importance of having all such instruction processes terminate in activity as directly as possible; in other words, of giving all education processes a social and hence moral and practical meaning. Present educational thought is largely a synthesis of Herbartian and Froebelian ideas, in which the latter are more in accord with prevailing philosophical, psychological and scientific thought.

CHAPTER XII

THE MODERN SCIENTIFIC TENDENCY

The scientific tendency is the continuation of sense-realism.

GENERAL CHARACTERISTICS. — It will be recalled that the sense-realists of the seventeenth century represented the beginnings of modern science. There is no break in the development of this scientific thought; but conditions gave unprecedented importance to the scientific tendency in education from the opening of the nineteenth century. Among these conditions were the great development of the physical and biological sciences, the influence of the naturalistic tendency in exalting the value of contact with nature, and the inadequacy of the old humanistic education as a preparation for modern life. The influence of the psychological tendency, especially of Pestalozzianism as object teaching and training of the sense-perceptions, was also marked.

The two essential features

The dominant characteristics of the modern scientific tendency in education were the same as those of the sense-realistic tendency. These were: first, the emphasis upon the importance of the content of studies and of the knowledge of the phenomena of nature; and, second, a recognition of the transcendent value of the inductive method of study. The immediate educational response in both of these respects was due chiefly to the development and better organization of the natural sciences.

Prominence of the scientific movement in schools due to remarkable development and better organization of the natural sciences

A survey of the development of the physical and biological sciences from the sixteenth century to the present time will be most helpful in throwing light upon the development of present educational thought and practices. Such a survey cannot be made in the brief space of this text, but the material can be gleaned from the various histories of science.

It is not until a subject of human interest or aspect of human experience receives a definite logical formulation that it can demand a place in the instruction of the school. The perfection of organization of grammatical, linguistic and mathematical studies made it difficult to effect any change in the organization of the school curriculum. There resulted a prolonged struggle against the prevailing disciplinary or classical-mathematical education for the recognition of the sciences. This produced a most extensive literature, which can be noticed here only by the discussion of two or three of the most notable movements and the work of two of the most notable representatives.

Conflict with the disciplinary conception of education

EDUCATIONAL DEMANDS OF MODERN LIFE. — Among Teutonic educators, the opposition to the dominant disciplinary education has been based upon psychological and philosophical grounds. Consequently it has centered around the question of method. Among the English-speaking peoples the opposition has been based largely upon practical and "common-sense" grounds, and has centered more around the question of subject-matter. The chief argument for the general introduction of the sciences into the curriculum and for a complete revolution in the character of education has been based upon the demands made by modern life.

Demand for introduction of sciences based largely upon value of subject-matter

Demands made by modern life

The movement of the first half of the nineteenth century was led by enthusiastic and well-designing reformers. They were not men of any broad scientific reputation or knowledge, such as later appeared in Spencer and Huxley, or men who had any such fundamental grasp of the educational problem as had Herbart or Froebel. Most prominent among the English reformers was George Combe (1788–1858), who represented a considerable body of influential followers and headed a movement of practical reform of great influence.

George Combe and the "secular school" movement in Great Britain

Two general lines of argument were followed by these earlier advocates of science. The first was based upon the distinction which they made between "instrumental" knowledge and positive knowledge. "Instrumental" subjects were those which

Based upon distinction between subjects valuable as means and subjects of intrinsic worth

furnished the means to gain further knowledge. The latter alone had intrinsic worth for the individual. The former included all the linguistic and much of the mathematical knowledge. Thus languages, grammar, writing, much of arithmetic, algebra, and all of pure mathematics merely provided means for obtaining a knowledge of the physical, intellectual, moral, social, political and religious world around us. Such knowledge was essential to the individual in regulating his life and promoting his own and the social welfare. These reformers argued that the dominant disciplinary education of their day directed all attention to subjects that were merely instruments and never reached the subjects that really gave one the knowledge necessary to make life successful, useful and happy.

"Disciplinary" value of the sciences

In their second line of argument the early advocates of a reformed curriculum considered education from much the same point of view as did the disciplinarians. Education should not only give to the individual such knowledge as would enable him to perform intelligently the various duties of life, but it should give the best possible training to all of his mental faculties in order that this great end might be attained. The old faculty conception of the mind prevailed, as did also the idea that it was a function of education to train these faculties.

What constitutes "culture" in the present

The more recent form of the view that the knowledge of value in education is that demanded by modern life may be summarized as follows: The elements which now enter into culture are very different from those of a few hundred years ago. New literatures have developed to vie with those of the Greeks and Romans; the arts have been perfected beyond the dreams of the imagination of those ages; new sciences have been created; and there now exists a knowledge of nature and of her forces that in comparison with the interpretation of preceding centuries seems most exhaustive and positive. Consequently it is necessary to define anew the liberal education. Studies are no longer considered to be liberal in proportion to their remoteness from practical bearing, but, on the contrary, in proportion to

their direct relationship to life. A liberal education is one which fits a man so well for his profession, for his life as a citizen and for all of his activities in life, that he is very much broader than that profession, seeing the import of his life in institutions. Civil, mechanical, chemical engineering, the practical application of any of the sciences, may become learned professions. If the individual is so equipped with a knowledge of the fundamental sciences that he is perfectly "free" through his mastery of his subject and "free" in the life that grows out from and is based upon that profession, the preparation for this may in itself offer a liberal education. Such an education must contain more than the mere rudiments or the technical instruction necessary for a practitioner in these arts; it must include a thorough mastery of them. For such a career the study of the French and German languages, contributing as these literatures may in the broadest manner to one's success by opening to him the experience of other peoples of advanced civilization, is far more liberal than the ordinary instruction in Greek or Latin would be. Similarly the social, political and economic sciences, contributing as they do a knowledge of the complex activities, interests and forces of modern social life, are liberal in the sense that the old disciplinary use of mathematics could not be. True, a man in such lines of scientific activity would need a most thorough course in mathematics. But the purpose of such study would be entirely different from the disciplinary aim, as would also the materials of study and the method.

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A liberal education is one containing the best culture material of the life for which it is designed to prepare; and it is liberal only to the extent that it includes these materials. The natural sciences most largely contributed to the culture of the nineteenth century. In a similar way the social sciences are now being developed, with much of inspiration, purpose and method borrowed from the natural sciences. Every aspect of life and thought of the present age has been modified and given its tone

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and color by the development of the natural sciences. Therefore, an education that constitutes a liberal preparation for present life must include a large element of these studies.

Necessity for *elective* studies

But since it is impossible that every youth to be educated should master even the rudiments of all these sciences in addition to much of the old material, the representatives of this view of education have usually contented themselves with demanding freedom of choice in the selection of studies and the recognition by educational authorities of the equivalence in value of the sciences in the course of study.

The democratization of the liberal education

With the prevalence of such a conception of a liberal education and such an organization of its subjects, it will be possible for the ordinary practitioner in any of the professions to combine a liberal with a professional or technical education. So long as these two types of education are kept so entirely distinct that the person who has the one cannot have the other, and so long as the liberal education is restricted to the mastery of a few subjects to which the majority of men who enter the intellectual callings in life cannot devote time, it must follow that the great majority, even of those who lead and who sustain the life of a community, will continue to be denied the privileges of a liberal education.

In England the men who have contributed to the establishment of this view, chief among whom were Spencer and Huxley, have labored for the most part outside of the universities; in America the most prominent of such leaders, notably President Eliot of Harvard, have been in connection with educational institutions.

Connection between the scientific education and the sociological and psychological

With regard to the subject-matter of education, the scientific view first presented agrees with the sociological. With regard to the foundation of method and the interpretation of the education of interest, — through the freedom of selection of subjects, — it agrees with the psychological.

THE THEORY OF EDUCATION FORMULATED BY THE NATURAL SCIENTISTS. — It was not until the middle of the

nineteenth century, when the organization of the natural sciences had become perfected, that a modern presentation of their educational claims could be made. The first of these, and yet the most influential, at least for Anglo-Saxon thought, was that by Herbert Spencer (1820–1903).

Herbert Spencer's *Education*

Spencer's "Education, Intellectual, Moral and Physical," was issued in 1860. The fundamental characteristic of the scientific tendency is revealed early in the treatise in his discussion of the importance of the selection of subjects of study as the vital theory in education.

General indifference to education and especially to question of value of subjects of study

"If there needs any further evidence of the rude, undeveloped character of our education, we have it in the fact that the comparative worths of different kinds of knowledge have been as yet scarcely even discussed — much less discussed in a methodic way with definite results. Not only is it that no standard of relative values has yet been agreed upon; but the existence of any such standard has not been conceived in any clear manner. And not only is it that the existence of any such standard has not been clearly conceived; but the need for it seems to have been scarcely even felt. Men read books on this topic and attend lectures on that; decide that their children shall be instructed in these branches of knowledge and shall not be instructed in those; and all under the guidance of mere custom, or liking or prejudice; without ever considering the enormous importance of determining in some rational way what things are really most worth learning. It is true that in all circles we have occasional remarks on the importance of this or the other order of information. But whether the degree of its importance justifies the expenditure of the time needed to acquire it; and whether there are not things of more importance to which the time might be better devoted; are queries which, if raised at all, are disposed of quite summarily, according to personal predilections. It is true, also, that from time to time we hear revived the standing controversy respecting the comparative merits of classics and mathematics. Not only, however, is this controversy carried on in an empirical manner, with no reference to an ascertained criterion, but the question at issue is totally insignificant when compared with the general question of which it is part. To suppose that deciding whether a mathematical or a classical education is the best, is deciding what is the proper *curriculum*, is much the same thing as to suppose that the whole of dietetics lies in determining whether or not bread is more nutritive than potatoes."

Meager limits of the traditional curriculum

Influence of Bacon and Rousseau

The new purpose, basis and method of education emphasized by Bacon are here again clearly presented. The purpose of education is defined as preparation for complete living. This in turn is judged largely from the point of view of the welfare of the individual, though of the individual as living in a fully developed society. Rousseau's influence is evident, but the thought appears in a radically modified form. "How to live? — that is the essential question for us. Not how to live in the mere material sense only, but in the widest sense. The general problem which comprehends every special problem is — the right ruling of conduct in all directions under all circumstances. . . . To prepare us for complete living is the function which education has to discharge; and the only rational mode of judging of any educational course is to judge in what degree it discharges such function."

Education should be a practical preparation for life

Classification of subjects of study on basis of importance as a preparation for living

This preparation for complete living consists, first, in the acquisition of knowledge that is best adapted for the development of individual and social life; and, secondly, in the development of the power to use this knowledge. What knowledge is of most worth becomes, as with Rousseau and with Bacon, the chief question of educational importance. To this question Spencer gives this definite categorical answer. Knowledge which leads directly to self-preservation, such as is included in the sciences of physiology, hygiene, physics and chemistry, is of first importance. Knowledge which leads indirectly to self-preservation through the sciences and arts relating to the securing of food, clothing and shelter comes next. Third in order of importance is the knowledge of rearing of offspring, which, in strange contrast with the attention given to the breeding of animals and the training required of a builder of bridges or a maker of shoes, is wholly neglected. On the other hand, any parent or teacher is presumed to be capable of bringing up a child without any preparation. Fourth in order is the knowledge of social and political life such as shall make one an intelligent citizen and neighbor. Last of all comes the knowledge of

literature, art, æsthetics, including foreign languages and literature, which, occupying the leisure of life, should also occupy the leisure of education. Thus the natural sciences demanded by the first three needs take precedence over the social sciences demanded by the fourth need and over the "liberal" or "culture" subjects, which at that time formed the basis of all school work. While this constitutes a negation of the Renaissance emphasis upon literature and languages, it is not, as with Rousseau, a denial of the value of knowledge. It is, on the contrary, an altogether new emphasis upon that value.

Subjects the "literary" education last

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Frequent objection is made to the utilitarian character of Spencer's view, to its somewhat radical application of Rousseau's test, "Of what use?" It is true that this test led to a rejection of all that was held most dear in educational tradition especially, and of the idea that a subject lost its educational value as it gained practical value. Yet the utilitarianism of the scientists was almost identical with the "practical" of Kant and the "æsthetic" of Herbart. They all indicate what is commonly meant by the term *moral*. That which affects conduct directly, improves life, benefits man individually or in society, is "utilitarian." Spencer did subordinate the amenities of life, but chiefly that he might gain for the neglected many what hitherto had been the perquisite of the privileged few. It has been said that Spencer sacrificed that which is higher in life — its culture — for that which is lower — its practical advantage. On the contrary, he emphasized the importance of the cultural elements in an entirely new way. His argument is that all these phases of knowledge should be emphasized and that every individual should be permitted some attainment or acquisition in each. In place of an educational and social scheme which gave to a limited few the education of a life of leisure without any of the practically useful, and to others an education of the most meager character in the dullest routine of life, he demanded such a readjustment as should give to every individual an educa-

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tion including some of all these elements, emphasized in the order mentioned.

Spencer overestimates the value of knowledge as a preparation

Another criticism is found in the objection, raised from the pedagogical point of view, that education is not a preparation for life, but that it is life. To a certain extent this objection is a mere juggling with words. So far as valid, it is that Spencer overestimated the value of knowledge as a preparation. This is characteristic of the entire scientific tendency. Yet this error is combined with a truer conception of the nature of knowledge than was the case in previous educational theories where the same defect existed. On the other hand, by way of justification, it must be recognized that Spencer's position is but a reaction against the over-emphasis on method given by the disciplinarians and, in a quite different way, by those representing the psychological tendency. It will be recognized that, on this point, the scientific tendency is a more radical reaction against the disciplinary view of education than was the psychological.

His principles of method do not go beyond those of Pestalozzi

In the essay on *Intellectual Education*, Spencer discusses more fully the question of method. This discussion consists only in an elaboration of a number of Pestalozzi's principles; — education should proceed from the simple to the complex, from the concrete to the abstract, from empirical to rational, and should be pleasurable He adds nothing of value to these. The one principle, previously noted under Rousseau, that all moral training should result from allowing the child to suffer the natural consequences of his own action, is emphasized as the essence of moral education.

Moral training by natural consequences

Practical educational activity of Huxley

Thomas H. Huxley (1825–1895) accomplished more for the actual extension of education in the natural sciences than any other living Englishman. Though Huxley's writings or addresses on education are very numerous, his main points are but a reëmphasis of those made by Spencer, Bacon and others, put in a somewhat different form. The practical purpose, the realistic basis, the criticism of the prevailing literary and classical education, is given in the following trenchant passage: —

"Now let us pause to consider this wonderful state of affairs; for the time will come when Englishmen will quote it as the stock example of the stolid stupidity of their ancestors in the nineteenth century. The most thoroughly commercial people, the greatest voluntary wanderers and colonists the world has ever seen, are precisely the middle classes of this country. If there be a people which has been busy making history on the great scale for the last three hundred years, — and the most profoundly interesting history, — history which, if it happened to be that of Greece or Rome, we should study with avidity — it is the English. If there be a people which, during the same period, has developed a remarkable literature, it is our own. If there be a nation whose prosperity depends absolutely and wholly upon their mastery over the forces of nature, upon their intelligent apprehension of, and obedience to, the laws of creation, and distribution of wealth, and of the stable equilibrium of the forces of society, it is precisely this nation. And yet this is what these wonderful people tell their sons: 'At the cost of from one to two thousand pounds of our hard-earned money, we devote twelve of the most precious years of your lives to school. There you shall toil, or be supposed to toil; but there you shall not learn one single thing of all those you will most want to know directly you leave school and enter upon the practical business life. You will in all probability go into business, but you shall not know where, or how, any article of commerce is produced, or the difference between an export or an import, or the meaning of the word "capital." You will very likely settle in a colony, but you shall not know whether Tasmania is part of New South Wales, or *vice versa*. . . . You will very likely get into the House of Commons. You will have to take your share in making laws which may prove a blessing or a curse to millions of men. But you shall not hear one word respecting the political organization of your country; the meaning of the controversy between free traders and protectionists shall never have been mentioned to you; you shall not so much as know that there are such things as economical laws. The mental power which will be of most importance in your daily life will be the power of seeing things as they are without regard to authority; and of drawing accurate general conclusions from particular facts. But at school and at college you shall know of no source of truth but authority; nor exercise your reasoning faculty upon anything but deduction from that which is laid down by authority. You will have to weary your soul with work, and many a time eat your bread in sorrow and in bitterness, and you shall not have learned to take refuge in the great source of pleasure without alloy, the serene resting place for worn human nature, — the world of art.' Said I not rightly that we are a wonderful people? I am quite prepared to allow that education entirely devoted to these omitted subjects might not be completely liberal education.

Illogical and unpractical education of English youth from "A Liberal Education," in *Science and Education*, p. 94

Knowledge one will need to use not given in the schools

Nor the intellectual or practical abilities one's duties will demand

The traditional education not a liberal one

But is an education which ignores them all a liberal education? Nay, is it too much to say that the education which should embrace these subjects and no others would be a real education, though an incomplete one; while an education which omits them is really not an education at all, but a more or less useful course of intellectual gymnastics?"

Prevailing education not even literary

Huxley did not admit that the prevailing education was literary, for the study of grammar and language structure is scientific rather than literary. The schoolboy never reached the literary stage; and the training he got in the languages was very poor science as to its method, and of no value at all in content. The argument that universal and practical education would be of no avail since neither poverty, crime, nor misery had decreased with education, he answered by saying that this fact simply showed the uselessness of the old education, without revealing any theory about a truer educational procedure.

The purpose, nature and method of education is stated in Huxley's notable description of the product of a liberal education.

Huxley's definition of a liberal education, from "A Liberal Education" in *Science and Education*, p. 86

"That man, I think, has had a liberal education who has been so trained in youth that his body is the ready servant of his will, and does with ease and pleasure all the work that, as a mechanism, it is capable of; whose intellect is a clear, cold, logic engine, with all its parts of equal strength, and in smooth working order; ready, like a steam engine, to be turned to any kind of work, and spin the gossamers as well as forge the anchors of the mind; whose mind is stored with a knowledge of the great and fundamental truths of nature, and of the laws of her operations; one who, no stunted ascetic, is full of life and fire, but whose passions are trained to come to heel by a vigorous will, the servant of a tender conscience; who has learned to love all beauty, whether of nature or of art, to hate all vileness and to respect others as himself. Such an one, and no other, I conceive has had a liberal education; for he is, as completely as a man can be, in harmony with nature."

SCIENCE IN THE SCHOOLS. In the Universities and Colleges. —The scientific study of nature was fostered in the earlier centuries of the modern era more by *academies of science*, beginning with that of Naples in 1560, than by the universities. While the scientific spirit was embodied in the University of

Halle from its foundations, it was in these academies and *real*-schools that science received its chief cultivation in Germany. Modern scientific teaching in the sense of experimental use of laboratories by students began with Liebig at Giessen in 1825. In France the beginnings of higher instruction in science of a modern type were also outside of the universities. The Republic, in 1794, founded the normal school at Paris, where the most famous French scientists, including Laplace and Lagrange, gave instruction. In England scientific instruction developed altogether independently of the universities. The College of Chemistry was founded in 1845, and the School of Mines was established by the government in 1851. The Department of Science and Art, founded in 1853, also fostered advanced scientific study. The royal schools above mentioned, together with the normal training classes started in 1868, were gradually brought together, and in 1890 were reorganized under the title of the Royal College of Science. Engineering schools and science schools in connection with the army and navy had already been instituted shortly after the middle of the century. In 1860 the Faculty of Science was created in the University of London, and the degrees of doctor and bachelor of science were first given. It was not until 1869 that the courses in science were established in any number in Oxford and Cambridge. While there has been rapid development recently, and while a large Carnegie fund has been devoted to fostering science in the Scottish universities, it is generally recognized that Great Britain has been almost a century behind the continent in the teaching of science.

In the United States. — Science appeared in the curriculum of American colleges in the earliest days. During the 17th and 18th centuries, however, it was a most formal text-book study of astronomy and perhaps physics.

The opening of courses in medicine at King's in 1767, at Harvard in 1782, and at Pennsylvania in 1791, was an important aspect of the development of the study of the sciences.

Introduction of more specialized sciences in early nineteenth century

In 1825, at Harvard, mechanics and optics appeared as separate courses; mineralogy and geology were added to astronomy, chemistry and natural history; electricity and magnetism first appeared as separate subjects; the philosophy of natural history was announced as a separate course and special lectures in physiology were given. Mineralogy, geology and botany appeared at Princeton in 1830, as had chemistry in 1803 and natural history still earlier. To natural philosophy, chemistry, astronomy and geography the subjects of mineralogy and geology were added at Yale in 1824. Electricity appeared as a separate course in the University of Pennsylvania in 1811.

So far as mentioned, these scientific subjects were all incorporated as required studies, and the disciplinary conception of education prevailed and was distinctly enunciated by various faculties.

Elective studies

The importance of interest and of the capacities and desires of the individual began to be recognized before the middle of the nineteenth century. The University of Virginia was established in 1825 upon the basis of the complete freedom of choice by the student. Advocacy of this system at Harvard began in 1825, and considerable freedom was allowed students from about 1845. Not until 1869 was the system of complete freedom in election of studies established, with the administration of President Eliot. Earlier than this Presidents Wayland of Brown and Nott of Union had stood for this broader conception of the college course. With the elective system came the general ascendency of the scientific subjects. The establishment of

Scientific departments in the universities

Cornell University, in 1867, upon a basis of complete freedom with a strong bias in favor of the scientific and technical subjects, completed this phase of the movement toward the general introduction of the sciences into higher education. Meanwhile, in Harvard (1847) and Yale (1860) special schools of science had been established.

Special science schools

The earliest scientific school of higher grade was the Rensselaer Polytechnic Institute, founded in 1824 at Albany, New

York. The advanced character of the scientific work can be judged from this direction to the board of trustees: "These [the students] are not to be taught by seeing experiments and hearing lectures according to the usual method, but they are to lecture and experiment by turn, under the immediate direction of a professor or competent assistant. Thus by a term of labor, like apprentices to a trade, they are to become operative chemists." The Morrill land grant of 1862, by which Congress appropriated thirteen million acres of land for the maintenance in each state of a college devoted chiefly to those branches of learning related to agriculture and mechanic arts, though "without excluding other scientific and classical studies," developed an entirely new type of scientific school. These are the schools of applied science found either in connection with state universities or as independent institutions in almost every state in the Union.

Congressional aid to scientific instruction

Science in the Secondary Schools. — *In Germany* the introduction of science through the sense-realistic movement has been noted. Through the influence of the philanthropists (p. 299), and of the materialistic thought on the one hand and the *new humanistic* movement (p. 269) on the other, the rigid classical conception of education was modified. In 1816 science was introduced into the Prussian gymnasien, and at a somewhat later period into those of the southern German states. Though but two hours per week were allotted to physics and natural history, — and even less in the southern or Catholic regions, — science retained its hold upon the classical schools, despite the reactionary movement that took place between 1815 and 1848. In 1855 two types of *real*-schools were recognized. In 1882 these became the *Realgymnasium* of nine years' course with Latin, the *Oberrealschule* of nine years' course without Latin, and the *real-schule* of a less number of years. In these schools thirty-six week-hours for the nine years, which is twice the time given to them in the gymnasium, are given to natural history, physics, chemistry and mineralogy. Much greater emphasis is also placed upon mathematics, geography

Science in the German gymnasien

and real-schulen

German technical schools

and drawing. Allied to the *real-schulen* are the technical schools, which have achieved such practical success and such perfection of method and organization during the present generation. These began with the technical schools of Nuremberg, organized in 1823. While technical subjects are most emphasized, the scientific and mathematical subjects as the bases for the work in the applied sciences are made prominent. Such schools have increased in prominence and numbers since the middle of the century (p. 399).

Science in the "academies" of England

In England, as in our own country, the introduction of scientific subjects into the secondary curriculum was identical with the *academy* movement. But the academies declined during the early nineteenth century and little was done to continue any interest in the study of the sciences. With the second quarter of the nineteenth century the popular controversy between the sciences and the classics in secondary education began and was continued with enthusiasm for many years (p. 351).

The "secular schools"

Various "secular schools" were founded and a society was established to foster secondary schools that should emphasize the sciences instead of the classics.

Science in the English "public schools"

In 1856, in answer to the expressed opinion of the University Commissions for Winchester, "that good elementary instruction in physical science is essential in the case of many boys, desirable in all cases, and perfectly compatible with a first-rate classical education," that college instituted a course "of ten or twelve lectures — delivered once a year." After ten years this was extended into a series of lectures continuing throughout the year with appropriate examinations. After the public school acts of Parliament in 1868, which revealed that there was an almost total absence of study of the sciences in the five hundred and seventy-two endowed secondary schools, a "modern side" came to be organized in all of the more prominent of these schools. This was accomplished tardily in some and with minor attention and unconcealed disparagement in all. Natural history and physics along with modern languages and histo-

The "modern side" of education

were included in this modern side. While this condition has much improved, the serious attention given to instruction in the sciences is fostered by the Department for Science and Art (in 1898 combined with the Department of Education). This department was created in 1853, though little of importance was done until after 1859. Schools or classes in which instruction is afforded in physics, zoölogy, chemistry, geology, mineralogy, botany, as well as in a variety of practical subjects, are now granted a subvention. In this manner more than ten thousand classes are assisted at the present time. In 1901 there were seventy-eight independent "science schools" of secondary rank.

Science in the academies of the United Stat

In America the academies were the home of instruction in the sciences from the first (p. 251). Astronomy and "natural philosophy" were the ones most emphasized, since these were most formulated during the eighteenth century. Geography was almost universally taught in these schools and chemistry frequently. A list of text-books published in the United States in 1804 includes six geographies as the only scientific text-books besides those of applied mathematics, such as surveying and navigation. By 1832 there were 39 geographies, 11 astronomies, 6 botanies, 5 chemistries, 6 natural philosophies. Most of these were designed for use in academies. It is needless to add that all the sciences were studied from books, though resort to experimentation with apparatus was frequently made for illustration. The first unmistakable evidence that any of these subjects composed a vital part of the secondary curriculum was the inclusion of geography among the college entrance requirements by Harvard in 1807. No other science followed as an entrance requirement until physical geography was added in 1870, and physics two years later.

and in the high schools

With the development of the early high schools, the emphasis upon the sciences was continued. The earliest high school, that of Boston, founded in 1821, included geography in the first year; geometry, trigonometry, navigation and surveying

in the second; and natural philosophy and astronomy in the third. All of the earlier schools of this type, whether called free academies, city colleges, English classical schools, union schools, or high schools, continued the same attitude toward the sciences. After 1870 the character of these schools was vastly improved, their number was increased, and the work in science was expanded to include physics, chemistry, botany and zoölogy, in well-organized courses. Until quite recently, however, the policy of giving numerous general courses of superficial character prevailed over that of a more substantial mastery by more thorough experimental methods of the principles of one or two sciences. While the curriculum of the high school gives an important place to the sciences, the institution itself was an outgrowth of the sociological tendency to be noted later.

Science study introduced through Pestalozzianism

Science in the Elementary School. — *In Germany* the influence of the naturalistic tendency under Basedow has been mentioned. It was the Pestalozzian movement, introduced into Prussia in 1810, and into other German states later, that made such elementary science studies general. Geometry was incorporated into the curriculum of the upper grades and drawing was offered throughout the course. Geography, taught by the inductive method and introducing much general information of scientific character, was included throughout. The study of science, including elementary physics, physiology, and natural history that dealt with the phenomena of botany and zoölogy in an elementary scientific way, was introduced into the middle and upper grades. In most of the grades these sciences were allowed two hours a week, though in some of the upper grades four. This remains the situation to the present time. For almost a century, then, science has been recognized as one of the subjects of the elementary schools throughout almost the whole of the German-speaking countries.

Present state of science in German schools

In England. — The condition of elementary schools was so chaotic until the establishment of board, or public, schools in 1870, that it is difficult to speak of general conditions. The

attitude of the Department of Science and Art in fostering science study, especially in giving encouragement to drawing and recently to manual training, has been mentioned. The establishment of numerous organized science schools since 1872 by the same department has also been referred to. Until 1900 the "three R's" were the only required studies in the primary schools. The teaching of other subjects was controlled by the governmental grants given for results in various subjects. The most popular of these supplementary subjects were geography and elementary science. These have now been included in the compulsory course.

Required subjects and supplementary subject in elementa schools of England

In the United States. — The question concerning the proper subjects for the elementary curriculum hardly existed before the middle of the nineteenth century. The "three R's," reading, writing and arithmetic, with spelling and grammar, were without any rivals whatever. In fact, the average school included only reading, spelling and English grammar, while those of a superior sort added writing, arithmetic, geography and history.[1]

The "three R's" in ear American schools

The first subject of scientific character that made any headway in its claims for representation was geography. By 1832, thirty-nine geographies and atlases, many of them for elementary school work, had been published in the United States. The second subject of scientific nature to find entrance into the elementary curriculum was physiology. This was especially the case in the New England region, and was due to the advocacy of Horace Mann, who, from 1837, continued his propaganda in favor of this subject. The first English text book on physiology of elementary character appeared in 1837; its introduction into elementary schools followed slowly, and in 1850 the state legislature of Massachusetts made compulsory the teaching of the subject in the elementary schools. Object teaching, and along with this the study of simple phenomena of nature, were introduced through the Pestalozzian movement

Introductio of geograph physiology

and nature study

[1] Hinsdale, *Horace Mann and the Common School Revival*, Ch. I.

(pp. 317–8). Nature study has been a more recent outgrowth of this and other influences.

SUMMARY

The scientific tendency during nineteenth-century education is but a continuation of the movement discussed under the sense-realism of the seventeenth and eighteenth centuries. The chief characteristics are emphasis on the importance (1) of the content of studies and especially of the knowledge of natural phenomena, and (2) of the inductive method of study. This movement becomes especially prominent during the nineteenth century because of the great development of the natural sciences and the necessity for a knowledge of these as a practical equipment for life as a part of modern culture. This leads to a new conception of a liberal education, namely, that it should contain the best culture material of the life for which it is designed to prepare. A necessity for a choice among subjects arises and the modern principle of election or choice among subjects results. The scientific tendency harmonizes with the sociological in that both make for the democratization of education or the liberalizing of all education so far as possible. While there were many advocates of scientific education during the nineteenth century, the most noted among English-speaking people were Spencer and Huxley. The introduction of the sciences into school curricula came slowly. In the universities their introduction began (1694) with the realistic movement in the German universities, but even there the reform proceeded slowly. Not until the second quarter of the nineteenth century did the sciences make much headway in the United States and not until half a century later in England. The academies, high schools and German *real*-schools provided for their introduction into secondary education. Geography was quite generally introduced into elementary education in the early nineteenth century. Physiology followed about the middle of the century. Pestalozzianism introduced nature study under form of object teaching. Nature study in more recent form, agriculture and elementary physics are quite recently introduced into the most advanced elementary schools.

CHAPTER XIII

THE SOCIOLOGICAL TENDENCY IN EDUCATION

GENERAL CHARACTERISTICS.—The sociological and psychological tendencies are not antagonistic, nor are the corresponding conceptions of education mutually exclusive. The psychologists look upon education as the process of the development of the individual; they approach the subject through the study of psychical activities; they emphasize the importance of method. The sociologists look upon education as the process of perpetuating and developing society; they approach the subject through a study of social structure, social activities, social needs; they conceive the purpose of education to be the preparation of the individual for successful participation in the economic, political and social activities of his fellows.

Difference between the sociological and psychological tendencies

Besides this difference in point of view and of emphasis, a few other characteristics may be noted. The extraordinary interest in appropriate subjects of study for every stage of education, from kindergarten to university, is an outgrowth of the sociological influence. This interest raises the question of educational values. Consequently, all traditional studies have been subjected to this test, with the result that some have been rejected and that all are being reorganized. There have been in almost every subject of study many elisions and many additions. When there was raised the question, What knowledge is of most worth in order that the individual may take his place in society? less and less importance was assigned to the purely linguistic and literary inheritance, and more and more to the knowledge of the phenomena of the natural environment, to the laws of the forces of nature, and to the knowledge of social

Sociological interest chiefly in subject-matter. Raises question of educational value

institutions. Thus this sociological tendency to minimize the old humanistic education and to accentuate the natural and social sciences accords with the scientific tendency.

From the view that education is the process of the development of society, or the less definitely formulated view that education offers the best means for social betterment, there follows the corollary that all members of society must participate in this development. The growth of public school systems, based upon the idea of universal and free education, followed the acceptance of these principles as a necessary consequence.

The sociological idea was given just emphasis by the leaders in the psychological movement

SOCIOLOGICAL ASPECT OF THE WRITINGS OF PESTALOZZI, HERBART AND FROEBEL. — While the dominant emphasis made by these men in their writings was upon the method of instruction and while their immediate followers were active almost exclusively in the improvement in the process and spirit of educational effort, nevertheless in their theory the sociological aspect is very prominent.

Pestalozzi's interest in the beginning of his work was in the improvement of the common people

In all of his earlier works, before the days of Yverdun or at least before those at Burgdorf, the great object of search with Pestalozzi was a method of improving the welfare of the neglected, degraded or orphaned poor. The philanthropic motive was uppermost in all of these earlier experiences. But social wrongs were to be righted by teaching children to be industrious. Through teaching them the simplest elements of knowledge, and this chiefly in connection with handicrafts, they were to be started on the road to self-development and education. Education is ever much broader than the school. It thus becomes a social as well as an individual process, one which is carried on by a variety of institutions. Education is the process as well as the means of bettering society. Education is ever to perform more for the individual than to give him rudiments of learning; it is to assist him to be something for himself and to do something for others. It was only because he realized that a practical method of attaining this end was the great essential,

Consequently education was considered as far more inclusive than instruction

Hence new method and new subject-matter necessary

that Pestalozzi turned his attention exclusively to the betterment of the process of instruction.

Sociological aspect of Herbart's theory seen (1) in the moral or social aim of education.

In the case of Herbart the social aspect of his influence appears most clearly in two points: first, in respect to aim, which is found in character, that is, in will functioning aright in society; and second, in respect to subject-matter, which is to represent to the child, in an idealized form, the various aspects of life. With Herbart education was to be moral in its aim, not as in the old dogmatic religious conception, nor even as in the philanthropic, reformatory views of Pestalozzi; education is moral in the broader sociological sense, since education has nothing else as its aim but the formation of the moral nature. The whole problem of education is to make instruction educative in this sense. Character is given a much broader analysis than formerly it had received, at least in educational thought. Inner freedom, and its external expression in efficiency, benevolence, justice and equity, represent in a new form the well-being and well-doing of Aristotle, and unite the individual and the social in terms of educational aims. In respect to the subject-matter of instruction, the Herbartian pedagogy contains another important sociological bearing, in that the curriculum represents to the child the summary of life in the past rather than merely so much material for the whetting of his wits. But as this view received further interpretation in the culture epoch theory, in which the curriculum represents the summary of past stages of culture rather than an idealization and amplification of one's own, its sociological import is subordinated to its psychological significance.

(2) in the curriculum as the summary of culture or of social activities

With Froebel the curriculum is given a social significance and represents society idealized and epitomized

It is with Froebel that the full social significance of the subject-matter of instruction, as the presentation to the child of the simplified and idealized elements of his own life's environment, is fully grasped (see pp. 340–1). As an epitome of life, the curriculum becomes the initial point of all instruction. This conception gives education a wholly new significance, and that a social one. It is the working out of this conception that

forms the chief concern of education to-day. While it was the psychological aspect of the problem that first received chief recognition during the present generation, it is Froebel's pedagogical thought, as it is more fully appreciated, that has come to have a new significance. No phase of school work has so closely approximated the idea of a society in microcosm as has the kindergarten.

Sociological and scientific tendencies agree in emphasis upon subject-matter

SOCIOLOGICAL ASPECT OF THE SCIENTIFIC TENDENCY. — In their emphasis on the importance of the subject-matter and in their opposition to the current views of the orthodox disciplinarian educators concerning the supreme importance of the process of acquisition of knowledge, the sociological and scientific tendencies coincide. However, the emphasis upon the supreme importance of subject-matter is from somewhat different points of view. The approach of the scientists to this position is through the value of the natural sciences as they bear upon the welfare of the individual; that of the sociologists is through the importance of both natural and social sciences as they equip the individual for life in institutions and thus secure the welfare of society. It is to be further noted also that all the prominent advocates of scientific education believe in a more extended educational use of the social as well as of the natural sciences. However the scientists and sociologists may differ in the solution of the problem of the curriculum, their point of view is the same; namely, "What knowledge is of most worth?" If, like Rousseau's "What is that to me?" the formulation of this question by the scientists is in individualistic terms, it is because it is more immediately connected in time and sympathy with this individualism of the eighteenth and nineteenth centuries than are the views of the sociological educators.

and in use of natural and social sciences

Difference of emphasis on these

Institutions for practical education the outcome of both movements

For the economic and utilitarian aspects of the study of the sciences, the sociological tendency has shown strong affinity. Professional, technical and commercial institutions have grown up quite as much in answer to sociological as to scientific demands.

EDUCATIONAL IDEAS OF POLITICAL LEADERS. — The social and political importance of education as well as the responsibility of the state for education was first recognized by the German peoples. The beginnings of state systems of education during the sixteenth century were outgrowths of the religious motive and conception of education. It was not until the eighteenth century that the politico-economic, or social, conception found full expression. The first monarchs to seize the idea that national prosperity and stability depended at bottom upon general education were Frederick the Great of Prussia (r. 1740–1786) and Maria Theresa of Austria (r. 1740–1780). In his famous school laws of 1763 the former recognized that it was the duty of officials to "strive for the true welfare of our country and of all classes of people" by "having a good foundation laid in the schools for a rational and Christian education of the young for the fear of God and other useful ends." The early French republicans came to hold a similar conception of governmental responsibility for education. While they outlined a system, it remained for later generations to construct it.

Eighteenth century recognition of social importance of education by German monarchs;

by French republicans;

In our own country education was highly appreciated in the colonial days and found a notable exponent in Franklin. Yet it was either the religious conception, as with the early colonists, or the individualistic and utilitarian, as with Franklin's generation, that prevailed. With our early national leaders, a new conception developed.

In his message to Congress in 1790, Washington wrote: "Knowledge is in every country the surest basis of public happiness. In one in which the measures of government receive their impression so immediately as in ours, from the sense of the community, it is proportionally essential." Education, as the dissemination of knowledge, was thus the conception which Washington held. This undoubtedly is the approach to the subject most frequently made from the sociological point of view. Consequently the importance of education lay in the effect which

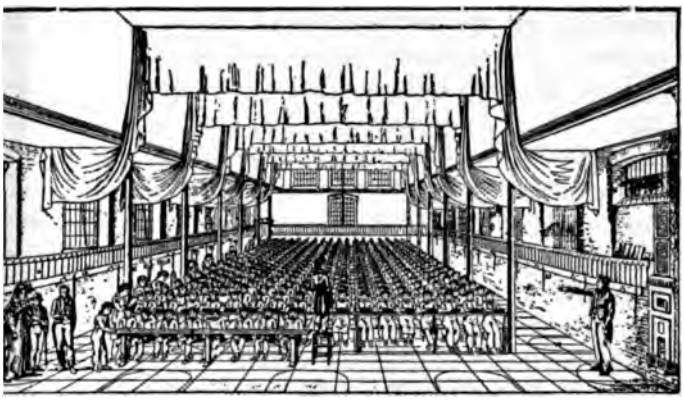
by American statesmen:

Washington's views;

the intelligence of the people would have upon legislation. The chief concern of Washington lay in the establishment of educational institutions that would serve as instruments of general enlightenment. In the same message he continues, "Whether this will be best promoted by affording aid to seminaries of learning already established, by the institution of a national university, or by any other expedients, will be well worthy a place in the deliberations of the Legislature." Later, he recommends the establishment of a national university and of a "national central agency charged with collecting and diffusing information and enabled by premiums and small pecuniary aids to encourage and assist a spirit of discovery and improvement." Thus he foreshadowed the work of the Bureau of Education, of the Smithsonian Institute, of the Carnegie Institution, and of the Department of Agriculture. The establishment of a national university is yet unrealized.

Jefferson's views;

Of all our early statesmen, Thomas Jefferson possessed the clearest grasp of the national significance of education and did most to promote such activities. The principle fundamental to this view we are here considering was announced in a letter to Washington in 1786. "It is an axiom in my mind that our liberty can never be safe but in the hands of the people themselves, and that, too, of the people with a certain degree of instruction. This is the business of the state to effect and on a general plan." Education as the safeguard of democracy is the general principle; the fundamental responsibility of the state for the education of the people is the working basis that comes to be accepted in the course of the following half century. How the tremendous task that this idea presented in the days of Jefferson could be accomplished could not then be seen. The solution awaited the gradual acceptance of this principle by the people and the growing ability and willingness to tax themselves generously for this end. With Jefferson this idea was bound up with the further one of local self-government. In other words, schools supported by local taxation, and con-



LANCASTERIAN MONITORIAL SCHOOL WITH RECITATION SEMICIRCLES AND LESSON BOARDS ARRANGED AROUND THE ROOM



A MONITORIAL SCHOOL IN OPERATION
From the Manual of the Georgetown (Md.) Schools (1827)



trolled by the local community as in New England, offered the solution of the new problem of democracy on a large scale. Late in life he wrote: "There are two subjects, indeed, which I claim a right to further as long as I breathe, the public education and the subdivision of counties into wards. I consider the continuance of republican government as absolutely hanging on these two hooks."

Madison's views

James Madison (1751–1836), the fourth President, was, next to Jefferson, the most active of our earlier statesmen in educational work. "A popular government without popular information or the means of acquiring it, is but a prologue to a farce or a tragedy, or perhaps both," he wrote. Consequently he held that "the best service that can be rendered to a country, next to giving it liberty, is in diffusing the mental improvement equally essential to the preservation and enjoyment of that blessing."

Practical realization slow growt

With these two statesmen such views were not mere opinions, for they devoted quite as much attention to educational activities and interests as to those of a political character. At the very beginning of this greatest of experiments in popular government, they realized most clearly that the success of it as well as the economic prosperity and social progress of the people depended upon their intelligence, and that such intelligence could be secured and guaranteed only by a most general scheme of education. No such system as would be adequate to the needs could be furnished by any other means than the state. As might be expected, their views were a half century or more in advance of the actual realization of these ideals.

Opposed to the individualism of th political sentiment dominant i early nineteenth century

EDUCATION AS A PREPARATION FOR CITIZENSHIP. — The conception of education common to all of these statesmen and public leaders is that education is primarily a preparation for citizenship. For several generations people could not recognize any great distinction between this state education and the individuality-repressing education which Rousseau sought to overthrow. In fact, in our own country, it was near or after

the middle of the nineteenth century before this social conception of education replaced the prevailing individualistic one. This individualism, however, was not the individualism of Rousseau and of the early psychologists, founded on the conception of education derived from a consideration of the child's mind; it was an individualism based upon economic, political and social considerations. The prevailing view among those giving no technical consideration to the problem was that the function of democratic government was to give to every individual freedom of opportunity, — a free field and no favors, — and that education was to equip the individual in the best and briefest way for this harsh competitive struggle. With these premises only the most utilitarian view of education could prevail.

Education held to be a preparation for competitive struggle

Recent recognition of the social value of education

In contrast with this, the sociological conception of education has received common acceptance through the idea that education is a preparation for citizenship. In the old view, the function of education was to develop the ability, improve the habits, form the character of the individual, so that he might prosper in his life's activities and conform to certain social standards of conduct. The idea emphasized in the citizenship conception is that individual and social welfare, happiness and righteousness depend more largely than ever before recognized upon the relations existing between persons and classes in institutional life. Therefore education has a new work, that of clarifying the basal principles of this relationship and of giving information concerning the very complex relations in society, and a new aim found in social motive. The new work demands a readjustment of emphasis upon subjects of instruction, with greater attention to historic, economic and literary subjects. The new aim requires a greater attention to the formation of character, social habits, patriotic and altruistic motives. The first adds new emphasis to the importance of the knowledge side of education; the second, to the moral aim. Education thus becomes, though indirectly, the force modifying social in-

Resulting changes in school work

stitutions by bringing about a better adjustment of individuals to one another. Progress is the characteristic of modern life; ability to adjust one's self quickly and properly to new social conditions is the chief demand upon education. This necessitates a knowledge of these changing conditions and an ability and willingness to bring about the readjustment. These are usually summed up under the term "good citizenship."

The d or cha stand: condu

PLACE OF EDUCATION IN SOCIOLOGICAL THEORY. — The subject of education occupies an important place in the sociological literature produced in the last few generations. Since the time of August Comte, who founded the science of sociology and coined the term, various interpretations of the place of education in social economy have been made. It will be impossible in a brief space to notice many of these; a statement of four of the most important must suffice. The exposition of one of these views is given by Professor Lester F. Ward, in his *Dynamic Sociology*. This work, though much neglected, is, in fact, the most elaborate treatise on education published by an American. The substance of the theory is as follows: Progress depends upon intelligence. Intelligence is the product of two factors, the degree of intellectual power and the product of its action; in other words, upon intellect and knowledge. The degree of intelligence can be improved only indirectly, through observation of the laws of heredity and the influence of environment, or through the process of acquiring knowledge. The extent of knowledge can be increased directly; hence from both points of view the function of education is to increase knowledge. The indirect means for the increase of intellectual power, that is, selection and rational change of environment, have been at work for generations, with the result that the amount of useful knowledge possessed by the average mind is far below its intellectual capacity. Thus the degree of intelligence is correspondingly below what it might be, and the great educational need, from the social point of view, is the more thorough dissemination of the great body of valuable

A vari views

(1) Ed tion as dissem tion of knowl

This v presen Ward': *Dynan Sociol*

knowledge already extant. Individual interest will care for the origination of knowledge. Such discovery is easier and more rapid than any increase of intellectual power can be.

Thus education becomes a most important social function. It should be controlled by the state and not by private parties. It should concern itself chiefly with the dissemination of knowledge, for upon this depends the general intelligence, and upon general intelligence, in turn, depends social progress and happiness. But the final relationship of education to society is not yet clearly revealed. The highest social process is that of "sociocracy," — the rational control and direction of society by itself to reach certain determined and valuable ends. In other words, the highest form of social control and direction is "politics," though politics in a sense as yet hardly realized. Education, as the dissemination of knowledge, which will serve as a basis for this highly rationalized social process, — that through which all others are obtained, — thus becomes the most immediate means to that end.

This scientific and abstract thought comes to essentially the same position formulated by the common thought in terms of "preparation for citizenship." In formal terms education is defined "as a system for extending to all members of society such of the extant knowledge of the world as may be deemed most important."

(2) Education as a means of social control

A second of these general sociological views considers education as a means of social control. Society in the past has relied chiefly upon the government with its direct means of control through force, and the Church with its indirect means of control through beliefs, ideas, ceremonies, rewards and punishments of immaterial character. Society now comes to depend more and more upon the indirect means of control exercised upon the coming generation through the school. This indirect means is far more economical than the direct means, since it depends so largely upon mere suggestion exercised by teachers rather than upon a force which rouses opposition. It

is more economical than when exercised wholly by the Church, in that it is largely intellectual and rational, and thus, through the self-interest and rational enlightenment of the individual, prepares directly for activities valuable from the general social point of view.

From this point of view, moral motives would be more emphasized than ever. But they would be moral motives of a different character. As education in the hands of the parent sought to control the child for the sake of his practical success in life; and the education of the Church to control him for the sake of the organization and for his own eternal salvation; so the education of the state seeks to control the child for the sake of the welfare of society, which includes the individual and his fellows as well. Thus as a form of control, education is merely an instrument of society similar to law, to police force, to religion and the Church, to organized public opinion, and to various institutional customs and traditions. But as such it operates in a peculiar way, not directly by force, but indirectly through the suggestive power of ideas and through the impartation of knowledge; not immediately upon the adult, but through the medium of a coming generation.

(3) Education as the process of "social mind"

A third estimate of the function of education from the sociological point of view is a much more fundamental one. Suggested in this meaning by social philosophers from the time of the Greeks, it was first given modern statement by Francis Bacon. He emphasized the importance of the study of tradition, — the transmission from one generation to the next of the substance of the learning and culture of the past. From this point of view education, in modern sociological theory, becomes the "effort to preserve the continuity and to secure the growth of common tradition." [1] Since the "social mind" or this common tradition or summary of human experience exists only in

[1] Vincent, *The Social Mind and Education*, p. 91. Chapter IV of this work gives the brief presentation of this entire theory, as summarized in the paragraph above.

the mind of individuals, such continuity can be preserved and development secured only "by preparing the young gradually to appropriate the collective tradition in general and by training a few minds to receive and elaborate its various highly specialized divisions." Without this inheritance of racial experience by participation in social institutions, the individual becomes an abstraction. There is no social mind, it is true, aside from the individual minds which collectively constitute it; but, on the other hand, there can be no individual mind save as it receives its content from this social one. Thus the negative of Rousseau's idea of a "natural" education is reached. This, however, is not a return to the view against which Rousseau revolted; but, by a completion of the circle of thought, it is a compromise of the two extreme views in a conception which rejects both the unchecked individualism of the one and the unlimited dominance of authority of the other. The individual is educated, or he develops, by incorporating within his own experience the summarized achievements of the race; social stability is secured by this same process and social progress through the modification of tradition and slight increment which the individual may furnish it. Thus it is not to a fixed but to a constantly changing environment that the individual is adjusted. This is the fundamental characteristic of modern education. For it is because the thought and institutional as well as the natural environment is constantly changing that the individual, in adjusting himself to it as perfectly as the adult generation can secure, must preserve and develop his own individuality. It is the *power* of adjustment to a changing environment, not the fixed adjustment in itself, that modern education seeks to secure for the individual as its highest product.

of the transmission of the racial inheritance

Adjustment of the individual to a changing environment

(4) Place of education in the theory of evolution

Thus is suggested the fourth and highest aspect of the sociological interpretation of education. Education becomes the most advanced phase of evolutionary process, or at least its most advanced method. The most general aspect of the theory

of evolution is that vast uninterrupted and eternal forces of development obtain throughout all nature, and that all phenomena, physical and mental, are subject to law. In the more specific sense, organic evolution is that adaptation of organic life to its environment which is secured for the most part through the process of natural selection. Human evolution is such self-adaptation of the human race to its environment as results in development. With this stage of evolution the institutional aspect of environment is most important and social selection is of greater functional significance than natural. However, so far as the race as a whole is concerned, such development has been largely unconscious. That is, since the social consciousness rather seeks to prevent change, social progress has resulted for the most part through the conscious effort of the individual to secure for himself some advantage which is not permitted or, at least, not consciously given by society. The highest form of social selection is attained when society becomes conscious of the aim — a given social status — and of the process through which the desired results are to be secured. Since the group has now conceived definite ends and a definite method of procedure through which it shapes the character of its constituent members and thus affects its own well-being, the process is a self-conscious one on the part of the group as well as on the part of individuals. Though chiefly of a negative character, legislation in general is such a method. The great positive method developed by modern society for effecting these purposes is public education. Education thus becomes for the social world what natural selection is for the subhuman world, — the chief factor in the process of evolution.[1]

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PHILANTHROPIC-RELIGIOUS MOVEMENTS FOR EDUCATION. — The growth of the systems of public schools, now supported by all advanced nations, has been along two lines of development, or rather through two successive stages. The

[1] For further development of this thesis, see Ward, Mackenzie, Vincent, Howerth, and Davidson.

Two stages in development of the present school system: (1) philanthropic-religious schools; (2) schools supported and controlled by the state

first of these was the stage in which schools were supplied chiefly by private voluntary enterprise, from motives of religious and philanthropic character. While leaving the management in private or in quasi-public control, the state contributed to these very generally. The second of these stages is that in which the political and economic bearing of education receives general recognition and the state accepts the responsibility for general education of all of the people as one of the functions of government. The importance of this philanthropic stage varied with different countries. The more prominent of the philanthropic-religious school movements, as they entered as constituent elements into the formation of our own public school system, deserve notice.

The pietistic schools of Francke:

Philanthropic-Educational Movement originating among the German Peoples. — Mention has already been made of the various philanthropic institutions founded by Francke at Halle, beginning with 1694. These developed into training schools for teachers, educational institutions of a practical character for orphans, and finally into the *real*-schools of the German states.

the Philanthropinum of Basedow;

The philanthropic movement under Basedow which, beginning with private institutions, led through the training of teachers and the production of a voluminous literature to the introduction of a study of natural phenomena, of more agreeable methods, and of a new and better spirit into the schoolroom, has also been noticed.

Pestalozzi's orphan schools

Similarly the Pestalozzian movement had its philanthropic aspect. This aspect of the work was carried on by Emanuel von Fellenberg (1771–1844).

Origin of the monitorial system in England

The Monitorial System of Bell and Lancaster. — In 1797 Dr Andrew Bell introduced into England the system of using the older boys for the instruction of the younger, which he had previously employed in an orphan asylum. By him, and especially by Joseph Lancaster (1778–1838), the system was developed until it became for England a somewhat inadequate substitute for a national system of schools. Through the use of a few conduct monitors and a sufficient number of teaching

monitors drawn from the more advanced students, and through a detailed system of organization and of method, it was possible for one teacher to direct a large number of pupils. With Lancaster the ideal, which he himself reached before he was twenty years of age, was for one teacher to control a school of one thousand boys. Thus in the absence of any willingness on the part of the people adequately to support schools, with the government opposed on principle to contributing for such purposes, and with the religious bodies wholly unable to cope with the needs of the times, the monitorial system made possible some general attention to public education. The Bell system found little or no footing in America, since it was connected wholly with the Church of England schools. The great service which the Lancasterian system rendered in our own country was in accustoming the people to schools for the masses of the people, to contributing to their support as individuals, and in gradually educating the people to look upon education as a function of the state. In addition to this it introduced a better system of grading, since all Lancasterian schools were rigidly graded on the basis of arithmetic work, and also on the basis of spelling and reading. Hence promotion was possible in one subject when it was not in the other. Moreover, it brought in a better arrangement and classification of material and a better organization and discipline of the school. The great defects of this system were that the work was most formal; that most of the instruction was extremely superficial; that the discipline was rigid and mechanical; and that the information gained was the result of formal memory work. There was absolutely no conception of the psychological aspect of the work and no intimation whatever of the newer, broader and truer conception of education that was developing on the continent.

One teacher for several hundred children

made possible free schools in cities;

first as charitable institutions

then as institutions supported by public funds and controlled by civil authorities

In 1805 the Lancasterian method was introduced into New York City. Within a few years almost every city from Boston to Charleston, in the South, and Cincinnati, in the West, had its monitorial or Lancasterian schools. Lancaster himself came

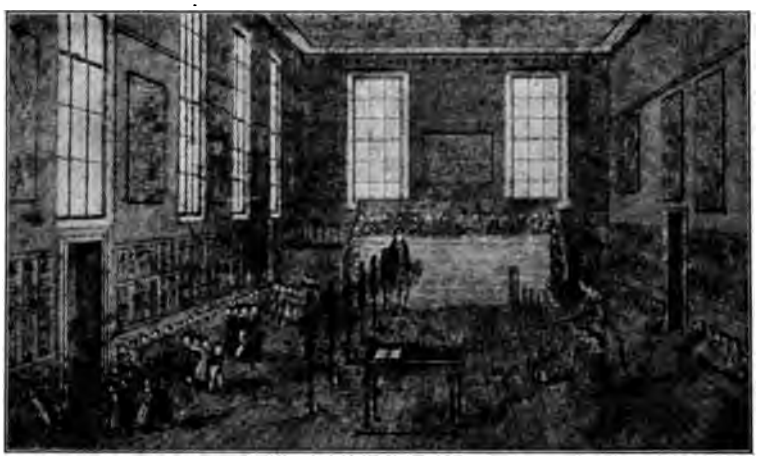
Development of most city school systems in first half of nineteenth century through the monitorial system

to this country and assisted in the New York, Brooklyn and Philadelphia schools. In the third decade of the century, the system was introduced in New York and Boston into a new type of schools, the newly founded high schools. For this and the two following decades the system was widely popular in the many academies throughout the country. As in the case of the Fellenberg system, with which it was often combined, the system disappeared in consequence of the arousing of public opinion on the subject of education, of the growing material prosperity of the people and of their growing willingness to contribute more liberally to the cause of education.

Origin and development of the Infant Schools in Great Britain

The Infant School Movement was of similar import. Originating with a French country *curé* in 1769, these schools were soon introduced into Paris and became the progenitors of the *maternal schools*, so common in all French cities at present. In England the infant schools originated independently with Robert Owen about 1799 at New Lanark, Scotland, as a means of checking the evil effect of the factory system on children. The factories of England at that period employed a large number of children that were bound out to them by the poor commissioners, at five, six, and seven years of age for a period of nine years. As these children were employed from eleven to thirteen hours a day in the factory, and at the end of their apprenticeship were turned free into the ignorant mass of the city population, their educational condition can be imagined. The infant schools were contrived to meet this situation. In 1818 the new idea was carried to London by James Buchanan, the teacher of Owen's school, and soon in the person of Samuel Wilderspin found an enterprising exponent who was at the same time a voluminous writer. In 1834 "The Home and Colonial Infant School Society" was formed for the multiplication of schools based upon Wilderspin's ideas. Almost ten years before this time such schools had appeared in New York, and were soon imitated in most of the other large cities of the country. Even where public schools were established no provision was made

The infant schools established in most American cities in first half of nineteenth century



THE INFANT SCHOOL: INTRODUCED INTO THE UNITED STATES, 1820–1830



A LONDON DAME SCHOOL IN 1870. ELEMENTARY SCHOOLS WERE NOT ESTABLISHED BY THE GOVERNMENT UNTIL THAT YEAR

This drawing, made from life by a member of the parliamentary investigating committee, was of a school above the average. The dame had taught in this basement room for forty years and had taught the parents of many of the children then in the school.



for children of the earliest years; the monitorial schools in most places similarly restricted their *clientèle.* In the early nineteenth century the public schools of Boston were forbidden to receive children who could not read and write. The Infant School Societies found abundant work to do in most cities. In many places, as in New York City, they were the progenitors of the primary department of the public schools; and to the present day, the independent organization of the primary department and the sharp division drawn for it in the school building is but a survival of the distinct origins of the grammar and primary grades.

grew with primary grades of public school systems

Public School Societies in the United States. — All of these educational interests were promoted, and by far the greater part of educational opportunity was furnished, by the organization of citizens into quasi-public societies. The history of schools in one city will serve as a type. With the exception of Church schools, and a school for negroes founded in 1787 and supported by the African Free School Society, there were no free schools in New York City until 1805. During that year, under the leadership of De Witt Clinton, the mayor of the city, a free school society, later called the Public School Society, was organized. The aim of this institution was to offer educational opportunities gratis to the children of the poor who were not provided for by the existing Church schools. The Lancasterian method of organization and instruction was adopted. In 1827 an infant school society was formed for the support of schools for children from three to six. While the Wilderspin organization was followed, there was an attempt to adopt the Pestalozzian methods. Within a few years these schools were incorporated into the Public School Society as primary departments. In addition to funds contributed by private parties and those raised by lotteries, the state, from 1816, had contributed from the common school fund to the work of this society, and the city had made annual appropriations. In 1842 a city school board was formed and public schools were established under its

Such infant and monitorial school at first supported by charitable organization or quasi-public societies

control. It was not until 1853 that the schools of the society were transferred to the control of the school board and a free public school system was really established. While the transition was somewhat more tardily accomplished in New York than in other communities, yet every American city, except a few of New England, passed through a similar development. Public school societies, not always bearing this exact title, existed in Philadelphia, Buffalo, Albany, and even as far west as Cincinnati.

The philanthropic-religious schools replaced by middle of nineteenth century by public schools

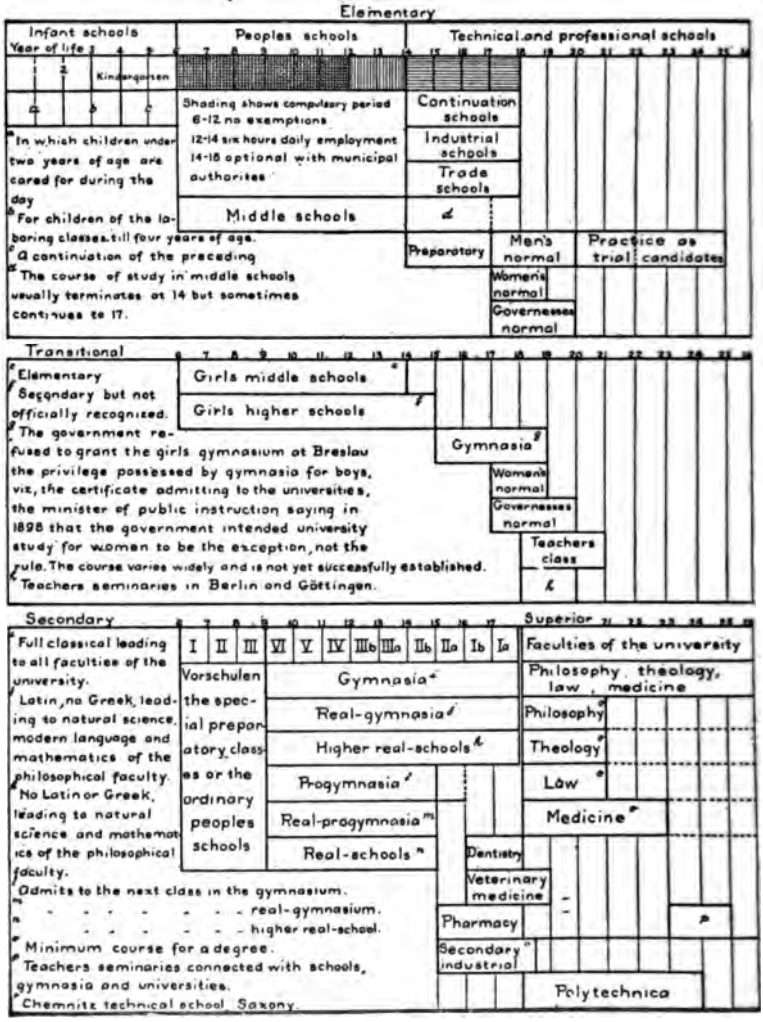
With regard to common schools at least, the philanthropic-religious period was terminated by the middle of the nineteenth century, yet it is to be remembered that kindergarten and manual training schools have found their way into the public schools within a generation, largely through the channel of privately supported organizations.

DEVELOPMENT OF MODERN STATE SYSTEMS OF EDUCATION. — In considering the somewhat tardy development of public, especially city school systems in our own country, it is to be borne in mind that few other municipal services were at that time developed. Water supply, street lighting, street cleaning, fire protection, even police protection, were yet matters of private enterprise. When the absence of all experience in any generous support of educational activities by taxation is borne in mind, it is not to be wondered that the development of the idea of free public schools and the willingness to support them by general taxation were of slow growth. In aristocratic states, such as those of the Teutonic peoples, where the foresight of the ruling classes rather than the general intelligence and generosity of the people determined the situation, less opposition to the development of the modern attitude toward education would be found. But a more important factor than the aristocratic-social one was the ecclesiastical-political one. Previous to the later part of the eighteenth century, it was the religious motive that controlled in education. Consequently only where the Church and state were closely united and where

Public school systems first developed where state and Church were closely allied

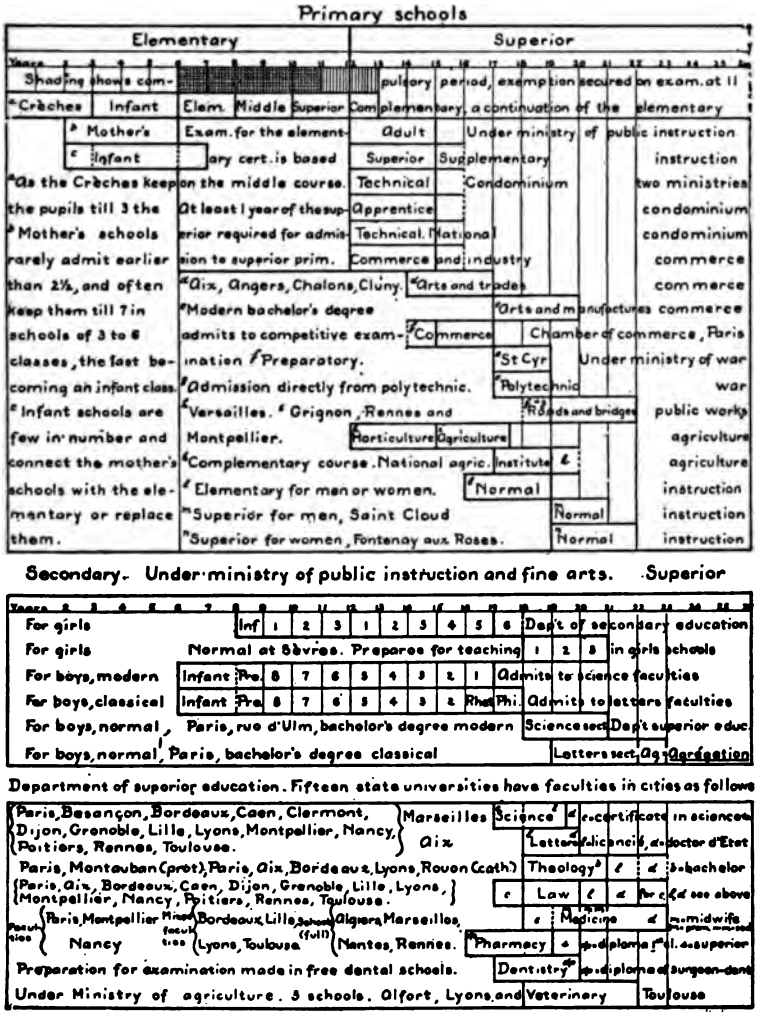


The German system of education as exemplified in Prussia



FROM *Professional Education in Foreign Countries*, BY H. L. TAYLOR

The French system of education as exemplified in Paris



Secondary. Under ministry of public instruction and fine arts. Superior

Department of superior education. Fifteen state universities have faculties in cities as follows

FROM *Professional Education in Foreign Countries*, BY H. L. TAYLOR



the Church desired to carry out some general scheme of education, did the latter attempt to develop and control systems of public schools.

Germany. — Thus it happened that state systems of schools first developed in Germany; that, as a result, the philanthropic phase of school development was less prominent there because less necessary and was wholly of a supplementary and reformatory nature. In Germany the politico-economic stage of school development was first reached and most thoroughly carried out. And yet the politico-economic motive, while very definitely announced by Luther (pp. 195–7), came slowly into public acceptance.

Public school systems first generally developed by the German states

The first clear recognition of the conception that education lies at the basis of the economic prosperity, the political power, and the social well-being of a people was, as previously mentioned, by Frederick the Great and other German monarchs of the later eighteenth century. It was not until 1763, at the close of the Seven Years' War, that Frederick could turn his great energies to the subject of education. In his *General School Regulations* [1] of that year, school attendance was made compulsory, adequate training and compensation for teachers were provided, proper text-books arranged for, methods improved, supervision secured, and religious toleration in education proclaimed.

The political and economic motives recognized in late eighteenth and early nineteenth centuries

It was not until 1794 that the transition to the new basis was completed. In the school law of that year, which met with prolonged opposition from the clergy and from large portions of the people, a variety of new principles were stated. All public schools and educational institutions were declared to be state institutions. All schools, whether private or not, were to be under the control and supervision of the state. All teachers of the gymnasien and higher schools were to be considered state officers, and the appointment of such teachers

Development of the Prussian school system during the eighteenth and nineteenth centuries

[1] See Barnard's *German Teachers and Educators*, p. 593, for translation of the *Regulations* in full.

belonged to the state. No person could be excluded from a public school on account of religious belief, nor could a child be compelled to remain for religious instruction contrary to the faith in which he had been brought up. From 1808 to 1812, under Von Humboldt and Von Schuckmann, the spirit and conduct of the elementary schools were revolutionized by the introduction of improved methods based upon those of Pestalozzi.

Current tendencies in the Prussian school system

General revision of the school laws of Prussia occurred in 1825, 1854, 1872. The tendency of these revisions as well as of subsequent minor changes has been toward the more general support of schools by the central government, with corresponding diminution of support from local and private sources, toward the complete abolition of tuition fees for the elementary schools; toward the centralization of the administration and supervision of schools at the expense of the rights of the local community; toward an improvement of the teaching staff and of the processes of instruction; and toward the complete elimination of ecclesiastical influence. While local pastors are found in the great majority of local school boards, the sentiment of the school as represented by the teaching class is strongly in favor of the elimination of the one remaining form of ecclesiastical control. The point to which other countries must give so much attention — the administration of an effective compulsory school law — has been on account of long experience almost automatically operative in Germany for more than a century.

Development of the public school system in France

France. — Agitation for public education in France began with the campaign in public opinion against the Jesuits and with their expulsion (1764). Yet at the opening of the Revolution more than half of the men and three-fourths of the women of France could not sign their names. The early Revolutionary Assemblies received many reports on education; the later Conventions passed many laws. But little in the way of execution was accomplished. In 1795 the National Normal School and

numerous secondary schools, *The Central Colleges*, were established. Conditions were so chaotic that little was accomplished and this little did not affect the one thing demanded by the Revolutionary sentiment, — universal, compulsory, free education. In 1806 was established the University of France, which included in itself, practically as a department of the national government, all secondary and higher education. Both Napoleon and the government of the Restoration neglected elementary education. This was left to religious societies and monitorial schools after the plan of Bell and Lancaster. Public elementary education dates from 1833. At that time Guizot, Minister of Public Instruction, proposed and carried into execution a law which established elementary schools of two grades, primary and grammar, in practically every commune. These offered tuition to the poor without expense; provided religious instruction and reserved to the government the right of appointing teachers and determining their salaries. Primary education was made free in 1881 and compulsory in 1882; the present organic law establishing the most perfect system of centralized and state-controlled schools now in existence dates from 1886. Until very recently, however, Church schools were as numerous and more influential than the non-sectarian state schools. Until 1882, religious instruction was given in all schools. All private schools are required to have the sanction of the state. Since 1901 all religious congregations have been required to obtain authorization and legal recognition in order to carry on educational work. The supplementary legislation of 1903 has practically closed all religious schools.

Origin second public 1833

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England. — In England, the land of institutional evolution rather than of revolution, this transition to the politico-economic stage has been longest delayed and is yet far from complete. The various philanthropic-religious school societies have been enumerated in connection with the movements from which they sprang. As in many localities of the United States, the first public support of education came in the form of grants to these

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church-school societies. Beginning in 1833, after a long controversy as to whether the government had any right at all to interfere in connection with education, the English government continued to grant annually an ever increasing amount to the schools maintained by the National Society and the British and Foreign School Societies. These grants were used chiefly for the erection of schoolhouses and upon condition of the right of government inspection. In practice none but clergymen were appointed inspectors; moreover, schools were required by law to give instruction in religion. As a result of parliamentary grants, teachers' training colleges were opened in connection with these societies in 1841 and 1844. Grants for pupil teachers, for books, for school supplies, were added within a few years. In 1861 the system of distributing these grants according to the number of pupils that had satisfactorily passed the examinations given by government inspectors in specified subjects was adopted. This is the "payment by result" system, which produced a formalizing tendency in the work of the schools and has only recently been abandoned. The act of 1870 established the first elementary schools organized, supported and supervised by the state. These are the "board schools," controlled by local boards and supported partially by local taxation, which must be at least equal to the government grants. By the law of 1870 compulsory attendance regulations might be adopted by district school boards; but until there were schools, such laws would be superfluous. By the law of 1880 compulsory attendance under ten was provided for; by that of 1899 the age was raised to twelve, and by that of 1900 the local boards were permitted to raise the age limit to fourteen. These two systems of state or "board schools" and church or "voluntary schools" remained side by side until 1903.

State aid to church schools since 1833

State schools since 1870

In 1902 there were 5878 board schools with 38,395 teachers, to 14,275 voluntary schools with 29,283 teachers. The law of 1903 gave support to the voluntary or church schools from the local rates and thus unified the system. The opposition of the

people to such compulsory state support of church schools precipitated a violent political conflict and largely contributed to the overthrow of the conservative government responsible for the law. In 1906 a bill was introduced providing for local political control of all schools, with minority representation for the ecclesiastical organizations contributing a part of the school support for denominational religious teaching in schools where three-fourths of the patrons demand it, and for unsectarian religious instruction in all schools.

Present encies i English educati

The United States. *Early Free Schools.* —Many of the early New England schools received their support from a variety of sources, such as the sale or rental of public lands, rental from fish weirs, from ferries, from bequest and private gift, from subscription, from local rates, and in nearly all cases from tuition of students. Wherever in the colonies it was customary for the local or colonial government to assist schools by grants or by taxes, it was also customary for the schoolmaster to supplement this small allowance by tuition charges regulated for the most part by common custom. As the schools established by the towns required some previous training on the part of those entering them, usually the knowledge of the alphabet or the ability to read, "dame schools" of a most rudimentary character sprang up in great numbers. The government of the New England towns was a pure democracy, and the control of schools remained for a long time in the hands of the town meeting itself. Only gradually were powers delegated first to the selectmen and then, in the eighteenth century, to a school committee. Then the necessity for tuition fees from the pupil was replaced by a more generous assessment upon the town. Thus it happened that in Massachusetts by the middle of the eighteenth century, and in other New England commonwealths shortly afterward, elementary schools were for the most part free. These early systems of public or free schools were largely due to the religious devotion of the New England people and to the practical identity of Church and state.

Public s system i New En land dat from th seventee century

These tc schools came fr before t Revoluti

The Horace Mann revival

The Educational Revival of the Early Nineteenth Century.— With the decline of the religious fervor and of the unanimity of religious belief in the later eighteenth century, interest in education declined also. The Latin grammar schools disappeared; private schools — the academies — took their place; and the elementary schools became more minutely subdivided and less generously supported. The establishment of schools upon a politico-economic basis was a growth of the nineteenth century. Although this transition went on during the entire half century, it was concentrated in the period from 1835 to 1850, to which has been given the name of its leading agitator, Horace Mann (1796–1859). Since schools were very generally supported by local taxation in Massachusetts, the reforms striven for by Mann as secretary of the Massachusetts School Board (1837–1849) were the abolition of the small district schools in favor of the better-supported, better-taught, better-equipped and more centralized town schools, a better preparation for teachers, the establishment of normal training schools, a longer school term, school libraries, an enriched curriculum, improved methods of instruction, and the building up of a spirit of educational enthusiasm among the people and of professional spirit among the teachers. The immediate results of the labors of this first great organizer of American educational forces were most encouraging.

Results of this educational revival

This educational revival was not confined to Massachusetts; there were many leaders as able and some, such as Henry Barnard, as prominent as Horace Mann. Chairs of education were established in several colleges. Though there had been one state superintendent of education before this time (in New York from 1813), many states now established such an office. A movement toward the concentration of administration of school affairs began. Educational magazines were established and a voluminous literature appeared. Educational commissioners were sent abroad by several states; common school funds were established; and, above all, some progress was

This educational revival was general, and resulted in the abolition of tuition in public schools

made, by the leaders at least, toward an appreciation of modern methods and the modern spirit in education. This latter came largely through a greater knowledge of and appreciation for the ideas and methods of Pestalozzi and of the German schools.

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Modern State Systems of Education. — As with Germany, there is no single system of education in the United States, but an independent system for each state. Yet the outline and general characteristics of these systems are much the same. The amalgamation, or development into consistent state systems, was an outgrowth of the revival previously discussed and of the establishment of the free school idea. The final establishment of the idea of free schools in the modern sense of the term was of quite recent occurrence. In New York the abolition of tuition in public schools was made by law in 1867. In New Jersey and Michigan it did not occur until the following year. In Pennsylvania the law was passed in 1837, and in Indiana it was embodied in the constitution of 1852. The free school system, thus developed, is constituted as follows: In every state the system of elementary schools offers instruction for seven, eight, or nine years, from the fifth or sixth year of age. In most states a secondary or high school course provides instruction for three or four additional years. In all except a few of the extreme eastern commonwealths, state universities offering free tuition to all, or to all from within the state, are to be found. Varying degrees of unification exist among these parts of the school system or in the administration of any particular part of it, as that of the elementary schools. The same forces that worked toward the development of this system now work for the closer unification in administration.

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THE INDUSTRIAL TENDENCY. — The politico-economic tendency until very recently has been dominantly political; it is now becoming dominantly economic. The fact that the basis for this early sociological movement was chiefly political and military can be illustrated by this one series of facts: with the exception of the school in connection with the royal mines

at Freiburg, Saxony, the first institution for the higher education in engineering and other scientific lines was the Austrian Military School at Vienna, established by Maria Theresa in 1747; the French monarch followed with the school at Menzieres within a year or two; and Frederick the Great established a *Ritter-Academie* of a similar character in 1764. The first school for scientific and engineering instruction in our own country was at West Point (1802). The first technical instruction of a public character in England was the outgrowth of the training of naval and military officers, and then not until the middle of the nineteenth century.

Some vocational preparation necessary in education for citizenship

Until recently the training for citizenship that has always been assigned as a chief function of state systems of schools has been along political and social lines. The aim of education was to prepare the individual to exercise the right of suffrage intelligently, to perform the duties of citizenship fully and honestly, to discharge the duties of office satisfactorily. At least in our own country, with its democratic social structure, the emphasis in public education has been largely from this point of view. For several decades past in Europe, and in recent times in our own country, a new interpretation of education for citizenship is being given. It is that education is to make the individual an economically productive social unit, and hence a valuable citizen. Especially in continental Europe, above all in Germany, has this tendency been long emphasized. The commercial and industrial advance, and that means the political and social advance of the various nations during the past half century, has been in very vital relationship to their educational advance. England and America have just awakened to this fact; hence many radical changes are now being proposed, or even actually introduced into school work. Especially, in our large urban communities, with great numbers of foreign immigrants, is it recognized that economic efficiency is one of the first essentials of good citizenship, and that such training must become a function of the school.

The economic aspect of training for citizenship

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On account of the greater intensity of industrial rivalry, most European countries have responded more immediately to this new demand than have we in America. Of all nations France has made most radical changes in this respect. Agricultural instruction is given in every rural school, manual or technical training in every urban school. Needlework, cooking, horticulture, and in localities special technical subjects of local interest are taught. School museums, school gardens, school libraries, are more generally provided than in any other country, in the endeavor to relate the school immediately to practical life. In England among the subjects for which payment is made by the government and which are quite generally adopted are cooking, sewing, manual training. Other subjects not so generally incorporated, but still subsidized, are domestic economy, laundry work, dairy work, cottage gardening, and "suitable occupations" adapted to particular localities. Dutch schools include instruction in dairying and various local industries. The Swiss provide, either in the elementary schools or in supplementary schools, for technical training in every one of the industries peculiar to their country. In Germany the tendency to introduce technical subjects into the elementary grades has not been so general. Needlework has been generally accepted; manual training less so.

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But in Germany this tendency is seen at its best in the continuation schools, night schools, and various types of secondary technical and trade schools of the greatest variety. It is in technical instruction in higher fields that most progress has been made of recent years. But German schools are of a more practical kind than engineering schools of collegiate and university grade, that have been referred to previously. Technical schools, offering training for almost all lines of industry and trade, have been established. Among these are schools of design, of textile weaving, of pottery making and design, of dyeing, and of all forms of practical chemistry. Of a more general character are those schools (the *Baugewerkeschulen*) that admit

students of practical experience to courses dealing with the principles and practices of building construction, the nature of materials, mechanical and free-hand drawing, modeling, science, mathematics, etc. Many different types of these schools exist in all continental European states, but most numerously in Germany and Austria, and all are supported by the state. Some give direct training in the trades (*Fachschulen*). Less technical are the industrial schools (*Industrieschulen* and *Gewerbeschulen*). The industrial and applied art schools (*Kunstgewerbeschulen*), and more important still the continuation schools (*Fortbildungschulen*), continue the work of the elementary school along all these practical lines. School sessions are held week days, Sundays and evenings. Allied to these are the commercial schools of secondary and even university grade. In this respect, as in all others, Germany, with its schools at Cologne, Munich and other places, was first in the field and ever in the lead.

Little done in the United States except in advanced technical education

Except in the cases of the scientific or engineering schools in connection with the leading universities and a few technical and trade schools, usually of secondary grade and always under private auspices, little has been done in the United States.

Some city school systems have added industrial and technical schools. Many have introduced manual training in both elementary and secondary grades

Progress is here being made along two lines. One is the direct establishment of industrial schools, which will soon be incorporated in the work of the public schools, at least as evening schools. The other is in the modified character of the manual training instruction so generally given. This work, introduced quite generally since 1885, first in the secondary schools of our larger cities and recently in the elementary grades of many of them, was first largely a training in processes of construction, analyzed into its parts. Its object for the most part was to train the senses and to develop the power to work with objective material. More recently still there prevailed the idea of Sloyd work, appealing to the interests of the child through the construction of a completed object and of something useful or ornamental in the home. But the present tendency seems to be definitely toward training in trade and craft processes.

Thus through the subject of nature study, study of agriculture, sewing, manual training in the grades; through commercial high schools, trade schools as yet supported by philanthropic enterprise, commercial and industrial courses in high schools, evening schools, manual training high schools, in the secondary field; through colleges of commerce and schools of applied sciences, either initiated or projected in the higher fields, the educational system of the United States is responding to this most recent social demand upon education which has already such remarkable response in European countries.

Thus is the politico-economic tendency shifting from the political to the economic basis in education. The significance of the Froebelian philosophy of education in placing such industrial and constructive work on a rational pedagogical basis has been mentioned (p. 339). This offers the chief explanation of the fact that it is the Froebelian idea of education that is coming to prevail in the present.

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SUMMARY

From the sociological view-point, education is the process of securing the stability and the betterment of society. The sociological view emphasizes the importance of a proper selection of educational subject-matter as a chief means of preparing the individual for proper social life and has resulted in making education universal and free. All those who led in the practical aspect of the psychological tendency, contributed to the sociological view in their emphasis upon the moral or social aim in education. Pestalozzi and Froebel especially looked upon education as the means for social betterment. Those who led in the scientific movement also contributed to the sociological tendency in insisting that new material should be introduced into the curriculum and that education should meet the needs of modern life. The advanced statesmen of the late eighteenth and early nineteenth century saw the relation of education to political and national welfare. Many of them recognized that the perpetuity of the new form of democratic government depended upon the education of the masses. During the nineteenth century, social and political thought and practice has been revolutionized with resulting changes in education. One of the earliest forms of this sociological interpretation agreed with the general

scientific view in considering the function of education to be the general dissemination of knowledge. A second, and more practical, interpretation viewed education as one form of social control. A third, more abstract view, interpreted education as the process of the social mind; — the processes of transferring the result of experience from generation to generation. From a somewhat similar view-point, education becomes the chief means of social evolution; the means by which man negates the law of non-inheritability of acquired characteristics and hands on to successive generations the accumulated experience of past ones. The concrete development of educational facilities in response to the ideas of the sociological tendency has been through two distinct phases: one that of schools founded from philanthropic and religious motives, and the second that of systems of public free schools established from economic and political reasons. Governments frequently contributed to schools during this first general period; but such schools remained under the control of churches or of quasi-public organizations. Both control and support of schools in this latter stage are political. The states of the Teutonic peoples began to develop such systems during the sixteenth century and perfected them in the later eighteenth and early nineteenth centuries. While some of the New England colonies originated such systems earlier, in most of the American commonwealths they developed gradually during the first half of the nineteenth century. In England this growth has dated from 1870. The most marked present tendency in these public school systems is towards the inclusion of various phases of vocational and industrial training as a preparation for citizenship and as a means of economic and social advance. Modern philosophical interpretation is furnishing a theoretical basis for these changes, which practical considerations have demanded.

CHAPTER XIV

CONCLUSIONS: THE PRESENT ECLECTIC TENDENCY

GENERAL CHARACTERISTICS. — The educational thought of the present seeks to summarize these movements of the recent past and to rearrange and relate the essential principles of each in one harmonious whole. The educational activity of the present seeks the same harmony in reducing these principles to practical schoolroom procedure. The frequent changes in subject-matter, in method, in organization, bring their own evils and appear as curious phenomena to conservative educators of more stable societies. Yet they are recognitions that new principles have been formulated, new truths recognized, and that practice controlled by tradition or by principles derived from a partial view alone must be readjusted in close accord with the new truths derived from the ever expanding knowledge of life and of nature.

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FUSION OF PSYCHOLOGICAL, SCIENTIFIC AND SOCIOLOGICAL TENDENCIES. — To this eclectic view of education the three tendencies in the educational thought of the eighteenth and nineteenth centuries have contributed. In the main the psychological contributions have related to method; the scientific to subject-matter; the sociological to a broader aim and a better institutional machinery. And yet each movement has exerted some influence on method, on purpose, on organization and on subject-matter. The most prominent contributions of these movements can be summarized in a few sentences. From Rousseau came the idea that education is life, that it must center in the child and that it must find its end in the individual and in each particular stage of his life. From Pestalozzi came

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the idea that efficient educational work depends upon an actual knowledge of the child and a genuine sympathy for him; that education is a growth from within, not a series of accretions from without; that this growth is the result of the experiences or activities of the child; consequently, that objects not symbols must form the basis of the process of instruction; that sense perception, not processes of memory, form the basis of early training. From Herbart came the idea of a scientific process of instruction; a scientific basis for the organization of the curriculum; and the idea of character as the aim of instruction, to be reached scientifically through the use of method and curriculum as defined. From Froebel came the true conception of the nature of the child; the correct interpretation of the starting point of education in the child's tendency to activity; the true interpretation of the curriculum as the representation to the child of the epitome of the world's experience or of the culture inheritance of the race; and in general the first, and as yet the most complete, application of the theory of evolution to the problem of education. From the scientific tendency came the insistence upon a revision of the idea of a liberal education; a new definition of the culture demanded by present life; and the insistence stronger than ever when reënforced by the sociological view, that industrial, technical and professional training be introduced into every stage of education and that it all be made to contribute to the development of the *free* man, — the fully developed citizen. From the sociological tendency came the commonly accepted belief that education is the process of development of society; that its aim is to produce good citizens; consequently that every citizen must be educated; that this education is secured through the fullest development of personality in the individual; that this development of personal ability and character must fit the individual for citizenship, for life in institutions and for some form of productive participation in present social activities; in a word, that one must learn to serve himself by serving others.

y Herbart;

y Froebel;

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CURRENT EDUCATIONAL TENDENCIES. — A more profitable and more concrete summary of the past can be made in terms of present tendencies. Most evident of all to the teacher are the many changes now being made in the curriculum. Such changes are chiefly an outgrowth of the sociological tendency, and are attempts to make the curriculum expressive of present social activities and aspirations. Following this there is the effort to make educational method and the procedure of instruction more definite, more scientific and more universally followed. This requires the further preliminary training of teachers and continuous professional study by the teacher and oversight by the supervisor throughout the teaching experience. This, above all, is the result of the psychological tendency. Connected with this change is the correlated tendency to closer articulation of subjects within the curriculum and of the various types of schools within the system. This is a result of the recognition of the significance of education as a social process, of the more scientific character of schoolroom work, and of the more general attention to the administration and the perfection of institutions. Hence there is at present a combination of psychological, scientific and sociological influences.

Expansion of the curriculum:

rationalizing of method;

training of teachers;

closer articulation of subjects and of types of schools;

The growing centralization in school administration and the more thorough and scientific school supervision are the results of new economic conditions bringing about centralization in all lines of social activities and a specialization in all lines of work. The latest phase of this tendency to specialization is revealed in all the professions, among them that of teaching. This results in another tendency, — the recognition of teaching as a vocation and as a profession with higher and more definitely recognized standards. This recognition depends primarily upon two conditions; namely, the demand for higher qualifications by those who employ teachers, and the incorporation of instruction in education and of training in teaching into the professional work and cultural investigations of higher institutions of learning.

specialization in teaching;

recognition of teaching as a profession;

educational work in universities

The elimination of religious instruction from the schools creates the problem of providing for religious instruction

One of the present tendencies gives rise to a new educational problem, and at the same time solves an old one. The complete secularization of schools has led to the complete exclusion of religious elements in public education, and the very general exclusion of the study or even the use of the Bible and of all religious literature. Thus the material that a few generations ago furnished the sole content of elementary education is now entirely excluded and the problem of religious education is presented. Little attempt at solution is being made and little interest seems to be aroused. The problem for the public school teacher comes to be quite similar to that presented by the Greek philosophers, to produce character through an education that is dominantly rational and that excludes the use of the supernatural or religious element. For our schools we have definitely rejected revealed religion as a basis for morality and seek to find a sufficient basis in the development of rationality in the child. Thus one most important phase of education is left to the Church and the home, neither of which is doing much to meet the demand.

Expansion of work of school

Another tendency is the expansion of the scope of school work. Much of the work recently included within schoolroom instruction is yet inadequately organized and hence indifferently presented. Unsatisfactory results follow. But undoubtedly the need is simply for more experience. What new social conditions have demanded, new school conditions must supply. The work of the school can no longer be restricted to the merest rudiments or instruments of learning. What is now demanded are the rudiments of living, the instruments needed for successful life in complex modern civilization. The most prominent phase of this tendency of the present is the incorporation of the industrial element in all school work. This argues a radical reshaping of our idea of education as well as of the instructing process. Education is to be broader, schoolroom instruction more helpful, more immediately practical, more directly related to conduct, and hence more moral. Whether this is a

to meet new social needs

general concession to materialism or not, is too large a problem to be discussed here. Whether it is, in any individual case, depends for the most part on the teacher. This new tendency which bids fair to increase far beyond present experience is wholly in answer to new social demands. And society must accompany these demands with a corresponding service, — liberality in the support of education greater than ever shown before. The expenditures for education in the present are unprecedented; but they are not to be a precedent for the future.

Liberal support of education by society

HARMONIZATION OF INTEREST AND EFFORT. — The eclectic character of present educational thought and practice is shown by the endeavor made to unify the elements of interest and effort in theory and in schoolroom procedure. The long period of peace, during which the conception of education as effort or as discipline prevailed, was succeeded by that period of conflict between the idea of education as discipline and the idea of education as a natural process determined wholly by the interests of the child. Both practical experience and further theoretical investigation are showing that the interpretation of education from the point of view of interest alone is as partial as the old interpretation of education as discipline. Consequently the present tendency is one of reconciliation, of interest and effort, as the basis of educational practice. The period of conflict occupied the second half of the eighteenth and practically all of the nineteenth century. The period of reconciliation in our own country is practically that of the present generation.

Dominance of disciplinary idea, a period of peace,

followed by period of conflict with naturalistic idea controlled by interest

The present is a period of reconciliation of interest and effort

Interest is essential as the starting point of the educative process; effort is essential as its outcome. The purpose of appealing to the interest of the child is to lead him to the point where he will put forth effort to master the unsolved problems, the undetermined relationships of his environment, whether of the schoolroom or of life. The object of the old education of effort was to develop in the child the power of voluntary attention, of application, of strength of will, that would enable him

Interest the starting point; effort or power of voluntary attention the outcome

to overcome the obstacles or to accomplish the tasks of each day's experience. The object of the new education of reconciliation is to reach the same end through immediate appeal to spontaneous attention and to the native interests of the child. The old was valid only for the comparatively few who were of such native ability as to profit by the training. The new, by building upon the essentials of human nature itself, seeks to secure that development for all. In both, the purpose is to produce that motivation in moral judgment and that power of accomplishment in action, the combination of which is character.

This view renders the object of education attainable by all

Neither interest nor effort a sufficient guide;

Neither interest nor effort is an end in itself; neither interest nor effort alone is a sufficient guide to the educative process. Interest is the condition of mind arising out of the child's own powers and needs in response to stimuli from his environment. Effort is the other side of the same situation and represents the discharge in response to the stimuli, — a response that calls for a greater expenditure of energy than can be sustained by the original exciting interest. What is aimed at in education through a combination of both interest and effort is the production of a type of mind that includes power of rational insight, of deliberation, of independence of judgment, of firmness of decision, and of effective action. To secure this, both interest and effort must be depended upon or called forth in the educative process.

but are two sides of the same process

The result is character

The problem of the schoolroom

The problem of the schoolroom, then, is neither by authority to hold the child to the mastery of certain tasks which are uninteresting in themselves and from which his attention is withdrawn the moment the external pressure is removed, and thus to develop will power and moral character; nor, on the other hand, is it the work of the school so to surround the needed activities or learning processes with factitious interests as to sugar coat the pills of schoolroom tasks. The harmonization of the problem of effort and interest consists in so relating the tasks of the schoolroom to the real life of the child, by drawing them directly from the activities of the child and of society, that

he grows into his fuller adult self through assimilation into his own personality of that which is, and which he recognizes to be, an essential part of the life of society around him. This activity is effort; interest consists in arousing in the child the realization of its vital relation to his own life. Personality is expanded and character produced as this possible relationship is developed into a normal and an abiding reality in the life of the individual.

is to relate education to life and thus secure both interest and effort

THE MEANING OF EDUCATION, as conceived in the present, is found in this harmonization of interest and effort. This is but another attempt to solve the problem of the individual and of society, which, as we have seen, has been the educational problem as it has been the ethical problem, from the beginning of human life. How is the individual to be educated so as to secure the full development of personality and at the same time preserve the stability of institutional life and assist in its evolution to a higher state? It is the old problem of securing both individual liberty and social justice. Interest and effort give in modern form Aristotle's problem of well-being and well-doing. Interest, representing the emphasis or the factor of individualism, is an outgrowth of the naturalistic movement of the eighteenth century. The education of effort is the survival in conservative circles of the old education of authority expressive of the religious and social views prevalent since the Reformation period. These views have survived longest in educational institutions that are controlled by religious denominations or by certain dominant classes in society, as in the English public schools and universities.

The problem of education is the old problem of adjusting the individual to society, so as to preserve individual liberty and social stability and justice

The definitions of education throughout this earlier period were given in terms of training for institutional or social life (Chapter IX). The definitions of education acceptable to the new thought of the nineteenth century were those couched in terms of individual development, as that of Pestalozzi (Chapter XI).

Dominance of individualistic factor in nineteenth century definitions

The meaning of education, as at present conceived, is found in the attempt to combine and to balance these two elements of



Recent tendency toward emphasis on social factor

individual rights and social duties, of personal development and social service. The meaning of education in the present finds its whole significance in this very process of relating the individual to society, so as to secure both development of personality and social welfare. It is true that for the last two decades the tendency in thought, in reaction to the extreme emphasis on interest and on individualism, has been to stress the social factor. Education has been defined as preparation for citizenship, as adjustment to society, as preparation for life in institutions, as the acquisition of the racial inheritance.

Present thought aims to harmonize both factors in definitions of education

But definitions more acceptable to present thought seek to combine both factors and to find a harmonization of them in the nature of the educational process. Thus Professor James, from the psychological and hence individualistic point of view, defines education as "the organization of acquired habits of action such as will fit the individual to his physical and social environment." President Butler's view emphasizes the sociological aspect but gives both elements. It is that education is the "gradual adjustment of the individual to the spiritual possessions of the race." Professor Horne's definition clearly reveals this eclectic tendency as including the psychological, the scientific, and the sociological elements in our present thought of education. This definition is as follows: "Education is the superior adjustment of a physically and mentally developed conscious human being to his intellectual, emotional and volitional environment." Professor Dewey defines education as "the process of remaking experience, giving it a more socialized value through increased individual experience, by giving the individual better control over his own powers." Here both individual and social factors are emphasized and harmonized. From whatever line of investigation the problem of education is now approached, its meaning is given in some terms of this harmonization of social and individual factors. It is the process of conforming the individual to the given social standard or type in such a manner that his inherent capacities are developed,

A similar meaning given to education by current practice

his greatest usefulness and happiness obtained, and, at the same time, the highest welfare of society is conserved.

THE CURRICULUM. — The curriculum is no longer a sacred inheritance, possessing absolute and permanent validity, the contents of which the child must master in order to attain to an education and to be admitted to the charmed circle of the cultured. The curriculum becomes but the epitomized representation to the child of this cultural inheritance of the race, — of those products of human experience which yet enter into the higher and better life of man and which the present generation esteems to be of value to the individual and of worth to society as a whole. Such an appraisement of the values of life must change from generation to generation, if there is to be progress in life; if life in the present has any value in itself beyond mere existence, culture cannot be the same for the twentieth century that it was for the eighteenth. The formal statement of the elements of character must remain much the same; the concrete content must vary as life varies. The curriculum must present to the child in idealized form, present life, present social activities, present ethical aspirations, present appreciation of the cultural value of the past. Only as a part of present life, that is only as it touches the present life of the child through the life of society, can it call forth that interest which is essential to the educative process. Hence as a result of the historical studies we have pursued, it appears that the curriculum must be adjusted constantly, though very gradually, so as to reorganize the old culture material and to include the new. The curriculum is the child's introduction to life, as schooling is the preparation for it. The curriculum, then, must really introduce to life as it is and as it should be; the school should actually prepare.

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METHOD. — Method is the process of using this culture material so as to produce the desired development of the child. This development must include the expansion of his own powers, the creation of control over them and the direction of them to

Definitio
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the necessary, to the useful, and to helpful social activities. Method is the guidance of the child in his activities by the teacher so that he may incorporate into his own experience that portion of the experience of the race which, to those who have the direction of his education, seems valuable; that is, suitable for his stage of development and similar in complexity to his own interests and activities. The sole effort of the teacher should be directed toward the guidance of this process; his sole interest should be in the expanding consciousness of the child, in furnishing experiences appropriate to the power of the child and properly related to his interests and activities. The teacher should be so equipped by previous training that he can give undivided attention to this process. Hence the necessity of *method*, as the term is ordinarily used. This method should be possessed by the teacher, but it is of most value when most unconsciously used. Method in the broader sense requires upon the part of the teacher a knowledge of the child; a knowledge of his existing interests, activities and possessions; a mastery of the material or the subject-matter dealt with; an understanding of the process through which the child incorporates the novel experience into his own; and an ability to use and to make subordinate the machinery of the schoolroom and the technique of the process of instruction. This last alone is considered method *par excellence*, but it is only one phase of method. Thus, in this broader eclectic view, as shown by historic survey, psychological method, scientific method, sociological method, schoolroom method or technique, are all included and should be considered as essential in the preparation of the teacher for his work.

The work of the teacher

***Method*, as "device," is wholly subordinate. *Method* in the broader sense.**

Various elements in broader significance of method

THE PERMANENT PROBLEM. — The problem of education is to transmit to each succeeding generation the elements of culture and of institutional life that have been found to be of value in the past, and that additional increment of culture which the existing generation has succeeded in working out for itself; to do this and also to give to each individual the fullest

The problem of education

liberty in formulating his own aims in life and in shaping his own activities to these purposes. The problem of the educator is to make the selection of this material that is essential in the life of the individual and essential to the perpetuity and progress of society, to construct it into a curriculum, to organize an institution to carry on this great process, and to formulate the rules and principles of the procedure which actually accomplish the result. The problem of the school is to take the material selected by the educator, to incorporate it into the life of each member of the coming generation so as to fit him into the social life of the times, to enable him to contribute to it and to better it, and to develop in him that highest of all personal possessions and that essential of a life satisfactory to his fellows and happy in itself, which we term character. Character in this sense demands on the part of the individual a knowledge of the best of the past and the present upon which to base rational action; sympathy for one's fellows and a good will that will give the proper motive to conduct; and a power of accomplishment, of turning ideas and motives into deeds, that will make efficient members of society. The problem of society is to maintain this expanded work of education liberally and effectively, and by more generous support to remove the teaching profession from those competitive conditions which tend to reduce its efficiency to the lowest rather than the highest standards, and which tend to base the remuneration and social reward of the teacher upon such conditions as prevail in the workshop and the market rather than those which operate in the professions. Based upon his knowledge of this culture product of life and of the method of incorporating it into the lives of the young, guided by his sympathy for the child and his good will for society, the problem of the teacher is to develop character in the child out of the material and the processes furnished by the school.

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To do this, year after year, with each individual of the group which falls to his or her lot, is the ever solving, but never solved, problem of education.



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